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Regional Planning in a Decentralised State: How Administrative Practices contributed to Consensus-Building in Sixteenth-Century Holland

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ABSTRACT

This article examines how a regional drainage system in the northern part of Holland in the Late Middle Ages could emerge despite the fact that the weak central state was hardly able to provide the necessary coordination nor prevent free-riding. Institutions, defined as rules and norms, including practices, procedures and techniques, play a key role in the argument. Four traditional administrative practices are identified as essential to the emergence of regional water control: a broad consultation process, by which opponents of new plans were also heard; landowners giving their explicit consent to plans and their costs; the proportional division of the costs; and the use of compensation for damage suffered. These practices respected local autonomy and broadened the level of support among the local stakeholders. The effectiveness of the practices was strengthened when they were used in combination with a technique provided by the Habsburg state: the *enquête* or inquiry. This was a technique for gathering reliable, relevant and detailed information at the local and regional level. In this case study, the information on landscape and water use, collected by the 1544 Commission of Inquiry, facilitated cooperation between communities that enjoyed a high degree of self-governance.

KEYWORDS

Water management, institutional history, state formation, The Netherlands, early modern history



INTRODUCTION

This article examines the emergence of a regional drainage system in the northern part of Holland in the Late Middle Ages. Until the seventeenth century, when land reclamations dramatically changed the landscape, this part of Holland was dominated by great lakes, connected to the sea by open sea channels. The emergence of regional water management was by no means a self-evident development for two reasons. First, there were conflicts of interest, due to the intensive use of water for multiple purposes. For most landowners, the sea's deep penetration inland brought serious drawbacks: farmers suffered from the expensive dike maintenance and shore erosion caused by wash on the lakes, waterlogged soils, floods, salinity of the surface water and inadequate drainage. They, at least, were likely to profit from closing the channels. By contrast, economic activities such as shipping and fishing thrived on having open sea channels. Due to such conflicts of interest, local communities were unable to solve their water problems on their own. Second, water management had to be organised in the context of what was effectively a decentralised system; the central state was hardly able to provide the necessary coordination nor prevent free-riding, as more powerful states could. The aim of this article is to describe and explain how a regional system of water control could emerge despite these conflicting water interests and the high degree of political decentralisation. Taking centre stage in the explanation is the careful application of a set of administrative practices.

There is much debate about the state's effects on economic growth, in particular on coordination problems and the provision of public goods. To put it simply, it could be argued that, as the state has the power to make legally binding rules that apply to all inhabitants, the optimal provision of public goods is only possible under the state. According to S.R. Epstein, limited state power leads to market monopolies, fragmented legal codes and other kinds of coordination failures, and to a lack of investment in public goods.¹ Dan Bogart has shown that the centralised state that existed in England after 1688 developed efficient institutions to provide public goods such as roads and waterways. Pre-modern governments were ill-equipped to invest in transport infrastructure themselves, but could stimulate such investment by empowering individuals and local groups through legal acts. After the Glorious Revolution, the growth of effective institutions, such as procedures for regulating negotiations, played an essential role in growing investment in transport infrastructure in England.² There is every reason to suppose that efficient institutions for facilitating

1. S.R. Epstein, *Freedom and Growth. The Rise of States and Markets in Europe, 1300–1750* (London: Routledge, 2000), 46, 51, 104.

2. Dan Bogart, 'Did the Glorious Revolution contribute to the transport revolution? Evidence from investment in roads and rivers', *Economic History Review* 64/4 (2011): 1073–1112, at 1089, 1097, 1100.

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investment in public infrastructure also played a crucial role in the Netherlands. During the Golden Age, the political fragmentation of the Netherlands resulted in a relatively weak system of regional planning and many coordination failures.³ This had also been the case in the Late Middle Ages, when Holland and the other counties, duchies and lordships of the Netherlands underwent a process of intensified state formation and centralisation as part of composite monarchies, first under the Burgundian princes (1425–1482) and later under the Habsburg princes (1482–1581).⁴ Despite impressive developments in state formation, the County of Holland remained decentralised in many ways, due to the existence of powerful cities that extended their privileges. A study on inland navigation in Central and Southern Holland shows that infrastructural development stagnated during this period. The Burgundian and Habsburg rulers very rarely used their power to solve coordination failures, and neither did they develop institutions for doing so.⁵

In this paper, we will examine the relationship between water management, state formation and institutional development, taking the emergence of a regional drainage system in Northern Holland between the thirteenth and the sixteenth centuries as our case study. We will try to answer two related questions. First, which institutions, in the sense of rules or norms, underpinned the development of regional water management? In this respect, we will identify a set of practices, techniques and procedures that were crucial to effective cooperation between dozens of local communities. Second, how did these practices relate to the state formation process? In answering this second question, we will assess how much influence the state had on providing an appropriate institutional framework to solve coordination problems. The paper focuses on a period of intensified state formation, between the 1540s and the 1560s. A crucial role was played by the Commission of Inquiry that conducted an extensive, region-wide investigation in 1544, about a proposal to close off the whole complex of internal waters between Alkmaar and Amsterdam from the sea. The inquiry, known as an *enquête* at the time, entailed the interrogation of more than a hundred people, besides ocular inspections and the collection of written documentation. Previous studies interpreted this inquiry as a deliberate attempt by the centralising Habsburg state to improve water infrastructure.⁶

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3. Marjolein 't Hart, 'Freedom and restrictions. State and economy in the Dutch Republic, 1570–1670', in Karel Davids and Leo Noordegraaf (eds), *The Dutch Economy in the Golden Age. Nine Studies* (Amsterdam: Nederlandsch Economisch-Historisch Archief, 1993), 105–130, 109–115, 122–123.
 4. H.G. Koenigsberger, *Monarchies, States Generals and Parliaments. The Netherlands in the Fifteenth and Sixteenth Centuries* (Cambridge: Cambridge University Press, 2001).
 5. Nikki Brand and Jan Luiten van Zanden, 'Infrastructuur in een stedenlandschap. Holland 1200–1850', *Tijdschrift voor Sociale en Economische Geschiedenis* 10/3 (2013): 3–32, at 24–25.
 6. B.M. de Jonge van Ellemeet, 'Hoofdmomenten uit de geschiedenis van het hoogheemraadschap der Uitwaterende Sluizen van Kennemerland en Westfriesland', *Bijdragen voor*

Modern historians are beginning to question this interpretation, but they have not yet offered alternatives.⁷

The paper will first briefly introduce the case study, by sketching out the economic and environmental context of the emergence of regional water control in Northern Holland. The second section will examine two basic procedures commonly used in Holland in the Late Middle Ages, which facilitated cooperation between the rival self-governing communities that were trying to shape regional water management. The third section will show how state institutions at the central and provincial level used inquiries in the course of the Late Middle Ages, and examines the state's interest (or lack of interest) in infrastructural matters. The fourth section then analyses the investigation of 1544 in order to see which practices played an essential role in facilitating the reform of the water system. Finally, the fifth section describes the effects of the policies formulated in 1544 in the longer term. In the conclusion, we return to the practices that were crucial for regional cooperation and assess the role of the state formation process in providing an institutional framework to facilitate regional water management.

1. THE USE OF WATER AND LAND IN NORTHERN HOLLAND

The County of Holland can be divided geographically into three parts: a northern, a central and a southern part. The case study is located in Northern Holland (see Map 1), which in the sixteenth century was a complex of islands and peninsulas. It was bordered by the North Sea to the west, the Zuider Zee to the north and east, and the IJ, a branch of the Zuider Zee, to the south.

The landscape of Northern Holland was dominated by the sea, lakes, rivers and canals. The intrusion of the sea through a system of rivers and canals with open outlets meant permanent exposure to tidal forces, even far inland. The five largest lakes had a total surface area of more than 40,000 hectares.⁸ As a result of centuries of intensive land-use and drainage, the level of the land was hardly higher than that of the sea, and in some places it had started to sink below sea level. Most of the agricultural land surrounding the lakes was low-quality, low-lying peat-land that had to be protected from the water

Vaderlandsche Geschiedenis en Oudheidkunde 7/1 (1931): 189–212, at 199; J.J. Schilstra, *Wie water deert. Het Hoogheemraadschap van de Uitwaterende Sluizen in Kennemerland en West-Friesland, 1544–1969* (s.l. s.n. s.a. [1969]), pp. 18, 19, 23.

7. J.J.J.M. Beenakker, *Van Rentersluze tot strijkmolen. De waterstaatsgeschiedenis en land-schapsontwikkeling van de Schager- en Nedorperkoggen tot 1653* (Alphen aan den Rijn: Repro Holland, 1988), p. 141, n. 67.
8. Guus J. Borger and Saskia Bruines, *Binnewaeters gewelt. 450 jaar boezembeheer in Hollands Noorderkwartier* (Edam: Hoogheemraadschap van de Uitwaterende Sluizen in Hollands Noorderkwartier, 1994), p. 156, n. 62. Waard Lake, later reclaimed as the Heerhugowaard, is not included in this amount.

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Map 1. Location of the North Holland Lake District in the Netherlands

by means of dikes. As every island and region had its own ring-dike, there were relatively long stretches of dike to maintain. The key problem in the region was shore erosion along the lakes, which meant that the dikes often had to be heightened and strengthened. Due to avulsion, dikes that had previously had foreshores came to lie directly at the water's edge, meaning that they were exposed to more wash. Dikes would frequently be shifted back, but this resulted in agricultural land being lost. Moreover, this was only a temporary solution, because the fragile peat-land soon became subject to even more avulsion. The large lakes gradually became larger. During the investigation of

1544, witnesses stated that they had seen large pieces of land break off and drift away.⁹ They also stated that the land that had originally separated the lakes was becoming eroded, and that they feared that the lakes – particularly Schermer lake and Waard lake – would merge into one. It would be possible to reduce the wash, which was the principal cause of land destruction, by blocking the channels between the lakes and the Zuider Zee. This would bring an end to the tidal movement and it would be possible to lower the water level (by as much as three feet, it was anticipated in 1544).¹⁰ Many farmers would profit from a lower water level, as it would allow surplus water from pastureland to be drained into the lakes more effectively.

In the mid-thirteenth century, six open channels connected the lakes to the sea. Four of these channels were closed in the Middle Ages, one by one, in a rather slow process. The first was blocked off with a dam in the Rekere River probably around 1270 (see Map 2 for the location of the Rekeredam and other dams). The second was closed off during the 1280s, with a dam at the southern end of the Zaan River (Hoge Dam). About a hundred years later, in 1388, the third, the Korsloot, was closed off by the Schardam. The fourth, de Purmer Ee, was closed in 1400 or 1401 with a dam at Monnickendam, called the Nieuwendam. This left two openings that were large enough for sea-going vessels to sail to the lakes: in the east, the Ee River, flowing through Edam; and in the southwest, the Krommenie River. Plans to block the Krommenie River had resulted in the construction of a semi-open dam in the mid-fourteenth century: the waterway was narrowed, but a clear transit passage remained.¹¹

The fact that two channels remained open until well into the sixteenth century was not due to a lack of technical or financial capacity, but to the influence of individuals and towns who used the channels intensively for shipping and fishing. The first four channels had only been closed off after considerable delay, due to active resistance to the plans. Powerful tidal movements in open sea channels prevented the waterways and ports from becoming silted up, so blocking them harmed the shipping interests of nearby towns. For this reason, when the dam at Monnickendam was built in 1400 or 1401, the town of Monnickendam had received a set of privileges to compensate for its economic losses.¹² A little further to the north, Edam, situated on the Ee River, fiercely opposed the blocking of the Ee, as this would harm the interests of local merchants, shipmasters and shipbuilders. The channels were not only

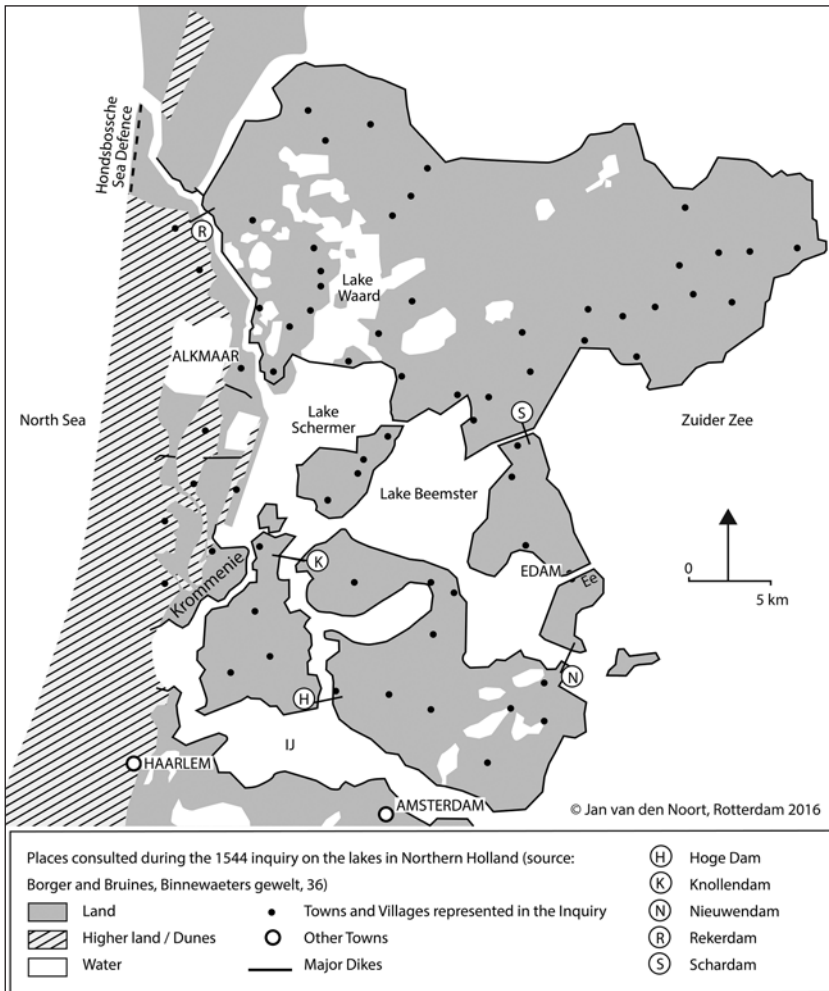
9. Borger en Bruines, *Binnewaeters gewelt*, p. 30.

10. Chris Streefkerk, 'Gebruik (en misbruik) van archieven. Een analyse van de archiefvorming rond de oprichting van het Heemraadschap van Uitwaterend Sluizen in Kennemerland en Westfriesland (1544–1566)', in Peter Horsman and Chris Streefkerk (eds), *Archieven in het geding* (The Hague: Stichting Archiefpublicaties, 2009), 9–17, at 12. Three feet is almost equal to 1 metre.

11. Beenakker, *Rentersluze*, p. 68 (1280s, 1400/1401), 75 and 78 (1388), 94 n. 19 (1270), 141 n. 62 (transit at Edam) and 141 n. 63 (1357, transit at Krommenie).

12. De Jonge van Ellemeet, 'Hoofdmomenten', 194.

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Map 2. Places consulted during the 1544 inquiry on the lakes in Northern Holland

used for shipping, but also for fishing, chiefly for migrating eels.¹³ Blocking the channels would lead to a considerable reduction in the catch. The most lucrative fishing rights near the channels were held by noblemen, who protested loudly when there was talk of building dams or floodgates. Besides the shipping towns and noblemen who held fishing rights, there was yet another

13. For a study on the conflicts around the fishery at Spaarndam in Central Holland, one of the most important fisheries located near sluices, see Petra J.E.M. van Dam, *Vissen in veenmeren. De sluisvisserij op aal tussen Haarlem en Amsterdam en de ecologische transformatie in Rijnland 1440–1530* (Haarlem: Historische Vereniging Holland/Hilversum: Verloren, 1998).

group in favour of open channels. In some areas bordering the lakes, inundation was an integral part of farming. Farmers let seawater run over their lands in the winter, because this killed vermin such as mice and the silt deposits boosted the fertility of the land. During the winter months, the borders between land and water shifted or disappeared. At the end of the winter, the water was drained into the lakes.¹⁴ The farming communities that practised inundation understood that blocking the sea channels would entail a prohibition on draining water from their lands into the lakes. Resistance from all these groups thus explains the long stagnation in the ‘damming programme’ after the dam was built at Monnickendam in 1400 or 1401. New works would also undoubtedly lead to conflicts about the allocation of costs for construction and maintenance, as water works always did.

The balance of power between different interest groups was shifting rapidly in the sixteenth century, as Holland became one of the most densely populated and heavily urbanised areas in the world. Growing demand for meat and dairy products caused land prices to rise. Most of the land in Northern Holland was still in the hands of local farmers who ran small-scale dairy and meat-producing businesses. The farmers supplemented the income from their small businesses with seasonal labour in activities such as shipping, fishing, peat-digging, bird-catching and textile production.¹⁵ In the course of the sixteenth century, part of the land fell into the hands of other types of landowners, primarily town-dwellers living in Amsterdam, Haarlem and Alkmaar, who leased out their land and introduced specialised agriculture. Together with the land-owning nobility, they are thought to have been the driving force behind the building of windmills on the peat-land surrounding the large lakes, thereby improving the quality of their land.¹⁶ Some experimented with draining lakes of a modest size, the first of which was successfully reclaimed in 1527. More small lakes around Alkmaar followed in 1542–1548, all drained by regents from this town, and plans were made for larger land reclamations.¹⁷

These agricultural ambitions were increasingly dependent, however, on having a low water level in the lakes to facilitate drainage, and on reducing the destructive wash. The conflicts of interest intensified in the sixteenth century.

14. Diederik Aten, ‘Drijven of drooghouden? Inundatie als landbouwmethode in Hollands Noorderkwartier, zestiende-negentiende eeuw’, *Tijdschrift voor Waterstaatsgeschiedenis* 19/1 (2010): 1–14, at 1–2, 5.

15. Bas J.P. van Bavel and Jan Luiten van Zanden, ‘The jump-start of the Holland economy during the late-medieval crisis, c. 1350–c. 1500’, *Economic History Review* LVII/3 (2004): 503–532, at 523–526.

16. C.M. Lesger, *Hoorn als stedelijk knooppunt: stedensystemen tijdens de middeleeuwen en vroegmoderne tijd* (Dordrecht: Historische Vereniging Holland/Hilversum: Verloren, 1990), p. 71.

17. Wouter Reh, Clemens Steenbergen and Diederik Aten, *Zee van land? De droogmakerij als atlas van de Hollandse landschapsarchitectuur* (Wormer: Stichting Uitgeverij Noord-Holland/Amsterdam: Architectura & Natura, 2005), pp. 76, 78.

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A few parties, headed by the town of Edam and one or two noblemen, prevented the remaining two channels from being blocked, to the disadvantage of a growing number of landowners.

2. PRACTICES UNDERPINNING COOPERATION BETWEEN LOCAL COMMUNITIES: BROAD CONSULTATION AND CONSENT

Adapting the system of water management by building new infrastructure was a major operation that had consequences for all water-users. The decision-making process that accompanied such adaptations was thus a complicated one. In this section, we examine two practices or conventions that eased cooperation between almost autonomous villages and towns: organising broad consultation processes and seeking the consent of landowners for water projects and the costs that came with them. These practices were accepted almost universally in the County of Holland in the Late Middle Ages.

Prior to making a major investment, announcing a new dike-law or re-organising a regional water management system, it was customary to hold a broad consultation process. One or more meetings would be organised at which knowledge and information would be exchanged and discussions would be held about the best measures and investments. Failing to hold such broad consultation processes resulted in protests, as shown by an example from Amstelland in the sixteenth century. The water district of Amstelland, situated southeast of Amsterdam, had been created in 1525 by a decree of Charles V. Prior to this, it is likely that landowners and representatives of local communities held various meetings, but there was no general process of consultation. Some of the villages were excluded as a result and, perhaps not coincidentally, these happened to be the villages that were disadvantaged by the newly introduced regional water system. In the lawsuit that followed, around 1540, a group of landowners clearly expressed the norm that interested parties should always be heard before a new dike-law was announced. They protested that they had not been heard and summoned [*'ongehoort en ongeroepen'*], and that this was contrary to all dike-laws [*'contrarie alle dyckrechten'*].¹⁸

The consultation procedure involved technical, organisational and planning aspects as well as financial arrangements. The starting-point for the consultation was the proposals that had been tabled by the authorities. The latter could be commissioners of the sovereign or, as in the central part of Holland, trustees of the regional water authorities. The deliberations had to establish whether the plans would be achievable and effective. Having a good understanding of

18. J.P.A. Louman, 'Roerende dat Heycoopwater ende Aemstellant'. Een Hollands-Utrechts waterstaatsgeschiedenis en de instelling van het hoogheemraadschap van Amstelland, 1520–1527', *Hollandse Studiën* 12 (Dordrecht: Historische Vereniging Holland, 1982), pp. 113–164, at pp. 145, 161 n. 286.

the local situation was essential for this, and this was something that only the local population could provide. The meetings had to result in a well-informed consensus on the best approach to remedy the problems, including the type of works and their location. One crucial element of these large-scale consultations was the landowners explicitly giving their consent to the final version of the project proposal and the related costs. Although it formed part of the consultative procedure, here we consider the process of consenting to project-related expenses as a separate practice in and of itself.

It was thus standard practice for landowners to give their prior consent to the costs incurred for water management. When a decision was made regarding an apportionment or rates per unit of land (an *'omslag'*), sources often note that this was done 'by common consent'.¹⁹ The rates might cover new water works, such as dams, bridges and locks, and major maintenance projects, such as the deepening of a river, but permission was also requested for other expenses. Consent was needed for borrowing money and for entering into legal proceedings, as these were very expensive. We know of many examples of landowners giving their consent for expenses in Rijnland, a large water district in the central part of Holland, from the fifteenth and first half of the sixteenth century.²⁰ When those involved failed to reach unanimity, a vote was held and the will of the majority prevailed. This practice was established in a privilege for the Land of Woerden (partly located in Holland, partly in Utrecht) as early as 1396.²¹

The two principles of broad consultation and obtaining landowners' consent for a new project and the anticipated costs were more or less universally applied, although they naturally varied from case to case, depending on the circumstances. In the case of small water districts, there were attempts to involve all landowners. In 1465, for example, in the Land of Altena, the full consent of the community of landholders was in principle needed, unless this proved impossible on the grounds that it was 'difficult to bring together the community of landholders to discuss all matters on a daily basis [*'moeyelyck waer in alle zaken den ghemeynen Ingelande dagelycks te versamenen'*].²² In large regional water districts, it was practically impossible to bring all of the landowners together, so representatives were sent instead. The villages could

19. National Archives, The Hague (hereafter NA), Hof van Holland, inv. nr. 14106, f. 1v. In the context of Dutch water management the terms 'apportionment', 'levy' or 'rates' are used rather than '(water) tax', as the money was not levied by the state, but in the name of the landowners.

20. Milja van Tielhof, 'Het college van hoofdingelanden. De vertegenwoordiging van de ingelanden in Rijnland en Schieland in de vroegmoderne tijd', *BMGN – Low Countries Historical Review* 131/2 (2016): 22–51, at 30.

21. H. van der Linden, 'Zeventuig. De middeleeuwse oorsprong van ons moderne waterschaprecht in zeven exempels', in F.J. Kranenburg, L.J. de Ruiter and J.H.M. Kienhuis (eds), *Waterschapsschouw* (Deventer: Kluwer, 1977), pp. 23–60, 34.

22. Van der Linden, 'Zeventuig', 35.

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send members of the village authorities (sheriffs and secretaries), but the most common practice seems to have been to send local functionaries who specialised in water management: the *ambachtsbewaarders* or *waarslieden*.

Most villages in Holland had two *ambachtsbewaarders* or *waarslieden* who were elected for one year (sometimes two) by people who owned land in the village. Research by Carla de Wilt into the identity of sixteenth-century *ambachtsbewaarders* in Delfland, a regional water district in Central Holland, has revealed that holders of both small and large quantities of land could hold this post, as could leaseholders without landed property. Even women were sometimes appointed.²³ The extent to which the *ambachtsbewaarders* were representative of the landowners varied according to time and place, as has been revealed by detailed research into the situation in three local jurisdictions (*ambachten*). In Maasland, the posts relating to local water management were held by big and small landowners alike, whereas in Monsterambacht, the big landowners came to monopolise these posts as the sixteenth century progressed.²⁴ Generally, they hailed either from a social group of more or less ordinary landowners, or from a local elite. Although the representatives did not perfectly reflect the landowning class, they did hail from the local farming population and in most local jurisdictions they were elected by the landowners, so we can assume that the landowners felt represented by them. In the second half of the sixteenth century and in the seventeenth century (depending on the region) the representation of landowners began to change, and a small and highly selective group of large landowners – from a regional elite – ousted the local *ambachtsbewaarders*.²⁵ Broad consultation was replaced by consultation among a narrow group of landowners and experts, and consent was increasingly obtained from these elite groups. To a certain extent, this was comparable with what had happened in Flanders in the Late Middle Ages, where the opinion of the wisest and wealthiest landholders came to be considered as most relevant in water governance.²⁶ The opinion of people who owned a substantial amount of land weighed more heavily than those of others, because they were thought to have more expertise and a major interest in good water management. During the introduction of a regional drainage system in Northern Holland around the mid-sixteenth century, however, older practices were still respected. This means that representatives coming from and elected by the local landholders were consulted and gave their prior consent to projects and related expenses.

23. Carla de Wilt, *Landlieden en hoogheemraden. De bestuurlijke ontwikkeling van het waterbeheer en de participatiecultuur in Delfland in de zestiende eeuw* (Hilversum: Verloren, 2015), pp. 111, 296, 300.

24. De Wilt, *Landlieden*, pp. 161, 196–197.

25. Van Tielhof, 'Het college van hoofdingelanden', 36–37 and 43–44.

26. Tim Soens, 'Polders zonder poldermodel? Een onderzoek naar de rol van inspraak en overleg in de waterstaat van de laatmiddeleeuwse kustvlakte (1250–1600)', *Tijdschrift voor Sociale en Economische Geschiedenis* 3/4 (2006): 3–36, at 14.

3. STATE FORMATION AND THE *ENQUESTE* TECHNIQUE

For much of the fifteenth and sixteenth centuries, Holland formed part of the composite Burgundian and Habsburg monarchies. Older historical studies present the reorganisation of the water management system around the great lakes in the sixteenth century as a deliberate and praiseworthy action taken by Emperor Charles V and his son Philip II in the common interest.²⁷ This is basically a free interpretation of the fact that Charles set up the commission of inquiry in 1544, and Philip furthered the implementation of the measures by sending a new commissioner in 1565. Most modern studies take a more restrained approach, while retaining the basic assumption that the reform formed part of infrastructural state policies that were driven by Charles V and Philip II.²⁸ In his explicit challenge to the traditional interpretation, however, J.J.J.M. Beenakker has questioned the state's sudden interest in the lakes, and argues that this has never been convincingly explained.²⁹ Whilst there is a long list of cases, compiled by Paul Van Peteghem, of the government in Brussels' involvement in water management in Holland during the reign of Charles V, this gives us no reason to be optimistic about the ambitions of the government. It seems that Brussels lacked a general policy on water infrastructure; its involvement was ad hoc and mainly concerned either land reclamations or urgent measures after flood disasters.³⁰ Floods, and their financial consequences in particular, could provoke extensive intervention by the central state, as James P. Ward has shown in a detailed study on Holland around 1509. Interventions occurred when regional water authorities clearly failed to do their job properly and large parts of the countryside were flooded, year after year.³¹ Only in exceptional cases did the response to floods have permanent consequences. This happened when flood catastrophes led to a significant fall in tax and domain income, which was the real concern of sovereigns. In such cases, central government intervened by creating large water districts responsible for strategic sea defences, the oldest of these being the district responsible for the Hondsbossche, a short seawall in Northern Holland of great strategic significance, which was

27. In 1969 Schilstra was full of praise for the rulers in Schilstra, *Wie water deert*, pp. 18, 19, 23. Likewise in 1931, De Jonge van Ellemeet, 'Hoofdmomenten', 199.

28. E.g., C. Boschma-Aarnoudse, *Tot verbetering van de neeringe deser stede: Edam en de Zeevang in de late Middeleeuwen en de 16de eeuw* (Hilversum: Verloren, 2003), pp. 320, 293; Borger and Bruines, *Binnewaeters gewelt*. For example, they do not ask whether high state officials might have served private interests in their efforts to reorganise the water system.

29. Beenakker, *Rentersluze*, p. 141, n. 67.

30. Paul Van Peteghem, 'Le gouvernement à Bruxelles et les digues de Hollande pendant le règne de Charles Quint', in Maïte Lafourcarde (ed.), *La frontière des origines à nos jours* (Bordeaux: Presses Universitaires de Bordeaux, 1998), pp. 248–270.

31. James P. Ward, 'Participative government in Holland in the early sixteenth century. Claude Carondelet's report on dyking the Zijpe Estuary, 1509', *Lias* 31 (2004): 23–54, at 28–30, 35–37, 41.

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established at the end of the fifteenth century (see Map 2 for the location).³² Being of little consequence for state income, matters of drainage and shore erosion around lakes attracted much less attention. Overall, the central state institutions in Brussels showed little ambition to improve the infrastructure in Holland.

On the provincial level, the States of Holland could have played a more active role, but they likewise devoted most attention to dike breaches. Floods caused expensive repair works and harmed agricultural productivity, which led to flooded regions asking for tax reductions.³³ The provincial states seem to have been hardly involved in matters of internal drainage, and there is no indication that they initiated the 1544 inquiry or were otherwise occupied with water management around the big lakes.³⁴ Perhaps this was also because Northern Holland was a peripheral region and the towns situated there acquired the right to be represented in the States of Holland only in 1572. Northern Holland therefore had to cope with even weaker state support than other regions in the province.

Despite the fact that both the central and the provincial authorities devoted little time and few resources to infrastructural matters, water-users nevertheless profited from the state formation process in other ways. One important factor was the state's provision of a technique for information-gathering at the local and regional level: the large-scale inquiry known as the *enquête* (also written *enquete* or *enkwest*) or *informatie* (also written *informacie*); contemporaries used the two terms interchangeably. Such investigations were organised by commissions of inquiry in many states in the Late Middle Ages, often in the context of the administration of justice, but also as an instrument for governance.³⁵ In Holland, forerunners can be found as early as the thirteenth century, but it took some time before they acquired their definitive form.³⁶

32. Milja van Tielhof, 'Forced Solidarity: Maintenance of Coastal Defences Along the North Sea Coast in the Early Modern Period', *Environment and History* 21 (2015): 319–350, at 330–331.

33. J.W. Koopmans, *De Staten van Holland en de Opstand. De ontwikkeling van hun functies en organisatie in de periode 1544–1588* (The Hague: Stichting Hollandse Historische Reeks, 1990), pp. 82–83, 165–168.

34. *Register gehouden bij meester Aert vander Goes, advocat van den Staten 's Lants van Hollant, van alle die dachvaerden* (The Hague: s.d.), vol. I (1524–1543) and vol. II (1544–1550).

35. For a recent publication on France: Marie Dejoux, *Les enquêtes de Saint Louis. Gouverner et sauver son âme* (Paris: Presses universitaires de France, 2014).

36. An inquiry dating from between 1289 and 1295: (http://resources.huylens.knaw.nl/register-shollandsegrafelijkheid/oorkonde/NH_480). For the Burgundian period: Mario Damen, *De staat van dienst. De gewestelijke ambtenaren van Holland en Zeeland in de Bourgondische periode 1425–1482* (Haarlem: Historische Vereniging Holland/Hilversum: Verloren, 2000), pp. 82–83.

In lawsuits, the *enquête* or *informacie* was the phase that was used for the provision of factual evidence, and was subject to strict requirements.³⁷ It could include the following: the gathering of written evidence, the hearing of witnesses and one or more on-site investigations (ocular inspections). The investigation was led by one or more commissioners, high-ranking officials who were usually appointed by the sovereign or by the presiding judge of a court. The number of commissioners varied depending on the importance of the investigation, but mostly ranged from one to four. The commissioners included one or more jurists from the central or provincial courts, such as the Great Council of Malines, the Privy Council or the Court of Holland. This could be the presiding judge, the attorney general or a regular councillor. The councillors were sometimes supplemented with officials from the provincial Audit Office (*Rekenkamer*) or other high-ranking officials who were familiar with the region under investigation, such as a steward from the count's domains. The councillors were therefore usually of a very high status. They had the authority to summon witnesses, so that everyone was obliged to cooperate with the investigation. Witnesses were heard under oath, and hearings often took the form of systematically asking each witness a number of pre-prepared questions. The commissioners were assisted by a deputy commissioner, who acted as secretary to the commission of inquiry and drafted a report (the *procès-verbal*). The latter had to contain everything that the commissioners had done on a daily basis, including all witness statements. Such reports often amounted to many hundreds of pages. The period in which the investigation was to take place was agreed in advance, and tended to be relatively short.³⁸

The Burgundian and Habsburg princes understood that these commissions of inquiry were also useful for purposes of public administration. Well-known examples of such investigations include the *Enquête* of 1494 and the *Informacie* of 1514: investigations into the economic and demographic circumstances of the villages and towns of the County of Holland. Fact-finding was the goal of these inquiries, in order to investigate local fiscal capacity and to adjust the tax burden accordingly. These investigations were therefore undertaken within the framework of fiscal politics and led to significant shifts in the tax burden. Due to their important content, the *Enquête* of 1494 and the *Informacie* of 1514 in particular have played a significant role in the

37. M.-Ch. Le Bailly, *Hof van Holland, Zeeland en West-Friesland. Hoofdlijnen van het procederen in civiele zaken* (Hilversum: Verloren, 2008) 36–38; M.-Ch. Le Bailly and Chr.M.O. Verhas, *Hoge Raad van Holland, Zeeland en West-Friesland (1582–1795). De hoofdlijnen van het procederen in civiele zaken voor de Hoge Raad zowel in eerste instantie als in hoger beroep* (Hilversum: Verloren, 2006), p. 46; for more detail on the *enquête*: W.G.Ph.E. Wedekind, *Bijdrage tot de kennis van de ontwikkeling van de procesgang in civiele zaken voor het Hof van Holland in de eerste helft van de zestiende eeuw* (Assen: Van Gorcum, 1971), pp. 96–121.

38. The directions for the Court of Holland given in 1462 and 1531 set out a number of demands that *enquestes* had to satisfy in judicial cases. Wedekind, *Bijdrage*, pp. 105–109.

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economic historiography of Holland since they were discovered around 1860. Other inquiries also led to concrete policy measures, usually related to state income. Between 1521 and 1523, on the orders of Charles V, an *informatie* was held on economic activities in the Grote Waard, a large polder in the south of Holland, which had flooded during the great St Elizabeth's Flood of 1421 and had never been reclaimed. Apart from site assessments by the commissioners and documents, the report for this investigation contains no fewer than 242 witness statements. After the investigation, the commissioners forced the people who were using the land or water illegally to cease their activities or pay rent to the sovereign.³⁹ The investigation was thus used directly to augment the domain revenues. Administrative inquiries were sometimes subject to the same formal requirements as judicial ones. During the *Enquete* of 1494, for example, the interrogations were guided by three questions that had been prepared beforehand, whilst the *Informacie* of 1514 was structured around six pre-prepared questions. Moreover, everyone was obliged to cooperate and the witnesses were heard under oath.⁴⁰ As we shall see below, the application of the *enquete* technique to the problem of coordinating regional water management in Northern Holland would prove to be important to the quality and success of the decision-making process.

4. THE *ENQUESTE* ON WATER MANAGEMENT IN NORTHERN HOLLAND, 1544

In July 1544, Charles V appointed two commissioners to carry out an inquiry into water management in Holland to the north of the IJ. The letter of commission already contained the broad outlines of a solution to the problems.⁴¹ The commissioners were tasked with finding out whether the channels should be

39. Valentine Wikaart et al., *De onderzoekscommissie naar de aanwassen in de Verdrongen Waard (1521–1523). 'Nijet dan water ende wolcken'* (Tilburg: Stichting Zuidelijk Historisch Contact Tilburg, 2009). The reports on large-scale inquiries often constitute an extremely rich historical source. The *informatie* on the flooded Grote Waard provides an exceptionally detailed description of the manner in which a landscape bordered by land and water was exploited economically in numerous ways. For an inquiry into the accessibility of Bruges for sea-going vessels, held in 1513–1515, see: Adrie de Kraker, 'Laatmiddeleeuwse waterstaatkundigen in Vlaanderen. Onderzoek naar de effecten van het Brugs kanaal op het Zwin, 1514', *Tijdschrift voor Waterstaatsgeschiedenis* 23/1 (2014): 1–16.

40. R. Fruin (ed.), *Enquete ende informatie upt stuck van der reductie ende reformatie van den schiltaelen, voertijts getaxeert ende gestelt geweest over de landen van Hollant ende Vrieslant gedaen in den jaere MCCCCXCIII* (Leiden: Brill, 1876); R. Fruin (ed.), *Informacie up den staet faculteyt ende gelegenheit van de steden ende dorpen van Hollant ende Vrieslant om daerna te reguleren de nyeuwe schiltaele gedaen in den jare MDXIV* (Leiden: A. W. Sijthoff, 1866) pp. XXV, XXVI, 3.

41. Waterland Archives, Purmerend (hereafter WA), Hoogheemraadschap van de Uitwaterende Sluizen in Kennemerland en West-Friesland te Edam 1544–1950 (archive number 1080) (hereafter HUS), inv.nr. 68.

blocked with floodgates that would only be opened at times of high water on the lakes. This would allow surplus water to drain into the sea, but seawater would no longer be able to flow in, thereby ending the destructive wash on the lakes. Opposition could be expected from those who held fishing rights at the floodgates. In the letter of commission, Charles V therefore suggested that his commissioners should attempt to negotiate an agreement with them, so that they would be satisfied with compensation. In the following, we show that the Commission of Inquiry collected information in a systematic and professional way, copying procedures from earlier *enquestes*, an approach that gave legitimacy to its conclusions. At the same time, an analysis of the investigation reveals that the commissioners used techniques that were deeply rooted in the tradition of cooperation between self-governing communities.

Like earlier *enquestes*, this inquiry was led by two commissioners who enjoyed both power and social status: Andries van Bronchorst and Adriaan Stalpaert van der Wiele. Van Bronchorst was a councillor at the Court of Holland for almost thirty years, between 1519 and 1546. He was a water specialist, often involved in water management matters due to his expertise.⁴² Van Bronchorst was a knight and held posts in regional governance and water management in the southern and central parts of Holland.⁴³ He owned a lot of land that was distributed across the County of Holland, including the north. Combining major interests in various regions with a position at the Court in The Hague, his was a typical linking role between the regional elites and the provincial government. The second commissioner was Adriaan Stalpaert van der Wiele. His family had been extremely successful in acquiring high-ranking official posts in provincial institutions in Holland in the sixteenth century, and many members of this family enjoyed lucrative careers in the service of the sovereign.⁴⁴ Between 1523 and 1553, Adriaan Stalpaert van der Wiele held various high-ranking posts in regional governance and water management in both the northern and central parts of Holland. Throughout this period, he was steward of Kennemerland and West-Friesland, regions bordering the great lakes.⁴⁵ In the 1530s he worked intensively on maximising domain income, for instance by describing 1,300 parcels of land.⁴⁶ At the time of the investigation of 1544, he was not only steward of Kennemerland and West-Friesland but also steward of the Hondsbossche, the region's crucial seawall. This suggests that he was in a particularly good position to view the water situation in

42. Serge ter Braake, *Met recht en rekenschap. De ambtenaren bij het Hof van Holland en de Haagse Rekenkamer in de Habsburgse Tijd (1483–1558)* (Hilversum: Verloren, 2007), p. 53.

43. Ter Braake, *Met recht en rekenschap*, pp. 371–372. J.L. van der Gouw, *De Ring van Putten. Onderzoekingen over een hoogheemraadschap in het Deltagebied* (The Hague: s.n., 1967), pp. 81–83. De Wilt, *Landlieden*, p. 74.

44. Ter Braake, *Met recht en rekenschap*, pp. 305, 307.

45. Ter Braake, *Met recht en rekenschap*, p. 408.

46. J. Belonje, *Het hoogheemraadschap van de uitwaterende sluizen in Kennemerland en West-Friesland, 1544–1944* (Wormerveer: Meijer, 1945), p. 7.

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Northern Holland in a broader context and that he had extensive experience in the financing of water management.⁴⁷

It is likely that the two commissioners were familiar with earlier inquiries when they prepared and carried out the investigation in 1544. As a councillor, Van Bronchorst would have come into contact with the inquiries that were held as part of the legal cases at the Court of Holland. Stalpaert van der Wiele, in turn, knew various people who had experience with *enquestes* for the purposes of public administration. His brother Jacob and his father-in-law Vincent Cornelisz had sat on the commission of inquiry that carried out the investigation into the use of land and water in the Grote Waard in 1521–1523.⁴⁸ Vincent Cornelisz was also a commissioner for the renowned *Informacie* on the fiscal capacity of towns and villages in Holland of 1514. In addition, Stalpaert van der Wiele's grandfather, Jan Stalpaert, was one of the commissioners for the *Enqueste* of 1494.⁴⁹ Undertaking large-scale investigations in the service of public administration was something that ran in the family, as it were.

Witnesses were obliged to cooperate with the investigation of 1544, although they were not heard under oath.⁵⁰ At the end, a lengthy report was drawn up that described the daily progress of the investigation, including all of the on-site inspections, interrogatories and the documents that had been compiled, such as tenancy agreements showing the value of the fishing rights. The report shows that the commissioners worked on the basis of a list of three questions that had been drawn up beforehand, which were systematically put to all witnesses. The whole investigation took three to four months, and on 9 November 1544 the commissioners drafted their recommendations on behalf of the emperor, with concrete measures to improve water management north of the IJ.⁵¹ The investigation was clearly rooted in the *enqueste* technique that had been developed for legal proceedings and public administration in the Burgundian and Habsburg Netherlands: it was led by powerful and distinguished commissioners, the witnesses could be compelled to cooperate, the interrogation proceeded in a very systematic manner on the basis of pre-prepared questions, and the complete investigatory report was drafted in a formal manner. The thoroughness and professionalism gave legitimacy to the recommendations made by the commissioners.

47. J.A. Brouwer, 'Iets over de bouw der Hondsbossche sluis te Zaandam en de daarbij verkregen vrijdom van schutgeld', *De Zaende* 4 (1949): 225–248, 226 and 228. Ter Braake, *Met recht en rekenschap*, p. 408.

48. Jacob Stalpert in 1521, Vincent Cornelisz in 1521–1523, Wikaart, *De onderzoekscommissie*, pp. 78–80 and 134, 232.

49. Fruin, *Enqueste*, p. 1.

50. WA, HUS, inv.nr. 55; Borger and Bruines, *Binnewaeters gewelt*, p. 34.

51. The recommendations and the report were later printed by the Regional Water Authorities of Uitwaterende Sluizen and are available in, among others, WA, HUS, inv.nr. 55, publications of the Regional Water Authorities, 1544–1585.

Two traditional practices for easing cooperation between local communities were integrated into the investigation. First, a broad consultation process was organised, whereby a summons was sent to dozens of villages and towns scattered across the region.⁵² These were asked to send representatives to Alkmaar, where the commissioners were in session. The commissioners interviewed more than one hundred individuals, almost all of them local representatives (*waarslieden*) from the villages (see Map 2 for the villages and towns consulted). As a wide range of parties was invited, the consultation gave a balanced and complete picture of all of the different interests at stake in the water system. It shows very clearly the intensive and multifarious use of water that was so typical of Holland: the fisheries at the floodgates, the shipping industry that would suffer from the build-up of silt in the ports if the channels were blocked, the farmers who were keen to inundate their lands in the winter, and the numerous agricultural businesses that would benefit from lower water levels in the lakes and lower diking costs. The consultation resulted in the adaptation of the original proposal, as several new measures were added.⁵³

Second, aside from the broad consultation process, we can identify a key element of cooperation between communities that enjoyed local fiscal autonomy: consent. The commissioners explicitly asked whether the village representatives would agree to contribute to the costs that the new works would entail. In doing so, they built on the principle that landowners had to give prior consent to major new projects and the anticipated costs. The commissioners put the following three questions to all village representatives: was their land harmed as a result of water that flowed into the lakes through the channel at Edam, and through the Krommenie River and other channels; if so, would it be useful and beneficial to their land if gates were to be put in these channels, so that water would only be let out and would no longer be let in; and whether they would agree to contribute, in proportion to the degree that they would benefit from the scheme, to the cost of the floodgates and the costs of compensation for owners of fishing rights who would see a fall in their catch.⁵⁴ A large majority replied in the affirmative to all the questions. The commissioners took no risks with the answers and wanted the affirmation in writing. The representatives therefore had to go back to their villages or towns and return with written confirmation. In this way, financial guarantees for the upcoming reorganisation of the water system were obtained and free-riding was avoided.

The commissioners applied two more practices to further regional collaboration. First, they suggested that the costs should be divided over the villages in proportion to the extent to which a village could expect to benefit from the blocking of the channels. This was an ancient and common rule of medieval

52. Eerste Advies [Initial Recommendations], 9 Nov. 1544, WA, HUS, inv.nr. 55. The villages and towns are listed in Streefkerk, 'Gebruik', 11, n. 8.

53. Borger and Bruines, *Binnewaeters gewelt*, p. 37.

54. Eerste Advies, 9 Nov. 1544, WA, HUS, inv.nr. 55.

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water management, and was generally translated into the practice of using two or more rates for water levies.⁵⁵ Four rates were applied in this case, as we shall see below. Second, the commissioners suggested reparation for damages, to the extent that people (such as the holders of fishing rights) or towns would be harmed by the reorganisation. The recommendations contained various compensatory measures. On 17 December 1544, Charles V authorised his two commissioners by imperial patent to have the floodgates built, to compensate the holders of fishing rights and to apportion all costs among the villages proportionate to their expected gains.⁵⁶ In addition to the elements of wide consultation and obtaining consent for new projects and related expenses, the proportional sharing of costs and the financial compensation for damage can be seen as methods that respected strong local autonomy. These four administrative practices played a key role in creating as much support as possible, thereby minimising the need to overrule local communities.

5. THE INTERPLAY BETWEEN THE STATE AND REGIONAL ACTORS

By now, it should be clear that the investigation of 1544 was of a high quality, and that its well-balanced recommendations were wise and realistic. It had important effects, although not all of the measures were actually implemented. All fishing rights in the open channels were redeemed and the Krommenie River was blocked; this was a success, as it did indeed result in a lessening of shore erosion in the south-westerly lakes. The second important result was that in 1546, after a few years of negotiations with local representatives and not without some pressure, each village was classified into one of four groups, which contributed to the costs with rates in the ratio of 4:3:2:1. Thus the first group, which was thought to profit the most, contributed four times as much as the fourth group. The pressure proved necessary, because, although a large majority of villages had answered the three questions affirmatively in 1544, some tried to revoke their answers when confronted with the new classification in 1545.⁵⁷ The commissioners had the power to curtail these attempts to free-ride at the expense of others. The classification of the villages was a major achievement, as the distribution of costs was one of the most divisive issues in water management in Holland. The tariff system would remain the basis for future cost allocation in the region, foreclosing any discussion in the case of new policies. However, the sea channel at Edam was to remain open for another seventy years; definitive arrangements concerning the sluices there formed

55. A.A. Beekman, *Het dijk- en waterschapsrecht voor 1795*, 2 vols (The Hague: Nijhoff, 1905–1907), p. 1653 (sub ‘vouwen’).

56. WA, HUS, inv.nr. 55.

57. Borger and Bruines, *Binnewaeters gewelt*, pp. 36, 40.

part of the patent for the draining of lake Purmer, granted in 1617.⁵⁸ Despite the failure to realise one important element of the plan, the objectives achieved in the 1540s did mark a major step in the centuries-old process of increasing control over the lakes. The financial agreements also paved the way for the creation of regional water authorities, which would permanently supervise the sluices and their closure at high tide and raise levies in order to maintain them. The first trustees were appointed in 1565.⁵⁹

Why did Charles V's authorisation in December 1544 fail to have its full effect? The debate in the literature has proved inconclusive; historians have suggested several explanations, including the unexpected death of Van Bronchorst in 1548, and his replacement by a new commissioner, Cornelis Suys. Other factors include friction between different segments of the working population in Edam (merchants versus shipbuilders) and, of course, the town government's fear that local trade and shipping would fall into decline.⁶⁰ Edam lacked faith in the effects of the compensatory measures proposed by the commissioners. The town resisted the scheme by legal and illegal means, and continued to do so over time. Opposition was firm and often violent, as two examples show. In 1548, the builder who was commissioned to build the floodgates on the Ee River was intimidated so badly by the people of Edam that he failed to complete his task. In 1566, men and women of Edam mocked and seriously threatened the trustees of the regional water authorities who had come to inspect the works that would eventually be built in the port.⁶¹ The state apparently lacked both the power and the motivation to overrule Edam and demand the complete implementation of the plan of December 1544. Neither the sovereigns themselves, nor the States of Holland, the Court of Holland or the other state institutions ensured that all the measures were taken. In my view, this suggests that factors other than state power were driving the improvement of the regional water system.

Taking a closer look at three of the people who were deeply involved in the scheme suggests that it was these men, not the state, who were the driving force. Most striking of all, perhaps, is the person who had the lease of the fishing rights at the Krommenie dam: Gerrit van Assendelft, the presiding judge of the Court of Holland. As the presiding judge, he must have had prior knowledge of the plans relating to water management in Northern Holland. On 27 March 1544 – that is, shortly before Charles V commissioned the investigation on 5 July – he had leased out the fishery for a lengthy period of nine years. He almost certainly profited from insider information by having himself

58. De Jonge van Ellemeet, 'Hoofdmomenten', 203.

59. Borger and Bruines, *Binnewaeters gewelt*, p. 44.

60. Belonje, *Het hoogheemraadschap*, p. 27; De Jonge van Ellemeet, 'Hoofdmomenten', 196–197; Boschma-Aarnoudse, *Edam*, pp. 298–299; Borger and Bruines, *Binnewaeters gewelt*, p. 42.

61. Boschma-Aarnoudse, *Edam*, pp. 296, 320.

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lavishly compensated for the damage he suffered.⁶² As a large landowner in the region, commissioner Van Bronchorst must have also anticipated making personal gains from the reorganisation.⁶³ The dowry for one of his daughters gives us an impression of his landed properties in 1542: on the occasion of their wedding, her husband received 30,000 Carolus guilders, for which many of Van Bronchorst's lands in Kennemerland and West-Friesland were provided as a collateral, many of them in the villages that were complaining about shore erosion.⁶⁴ Intriguingly, these villages were to be found in each of the four tariff groups. It appears that Van Bronchorst's properties suffered from the effects of the open sea channels to varying degrees, which gave him the knowledge and experience to estimate how much each village could expect to benefit from their closing. The interests of the other commissioner, Adriaan Stalpaert van der Wiele, largely coincided with those of the sovereign, given that he was the type of loyal official who used his many posts in the service of the sovereign to arrange lucrative careers for himself and for members of his family. As steward of Kennemerland and West-Friesland and steward of the Hondsbossche seawall, he ensured that the investigation of 1544 would benefit domain revenues and the management of the Hondsbossche.⁶⁵ In 1553, Stalpaert van der Wiele was rewarded for his outstanding service by being appointed auditor of the Holland Audit Office.⁶⁶ The literature on water management in the Habsburg period offers other examples of high-ranking officials acting as the driving force behind large-scale interventions in land and water management. Jeronimus Lauwerijn, for example, the receiver general in Flanders, profited hugely from state support when turning inundated lands into polder around 1500, thereby turning the power of the state to his own advantage.⁶⁷

It is clear that the efforts to improve the water system described above did not form part of an overarching state policy on infrastructure. They did not originate in a vision on regional planning that was meant to serve the common interest in the longer term, or to stimulate the regional economy. The emergence of regional water control was made possible by a broad coalition of

62. Belonje, *Het hoogheemraadschap*, pp. 22–25.

63. His efforts to reorganise water management on the isle of Putten in the southern part of Holland during the 1530s had brought him great benefits, too. Van der Gouw, *De Ring van Putten*, p. 82.

64. Regional Archives Alkmaar, Provenhuis van Zessen, Alkmaar, 1626–1986, inv.nr. 49 and inv. nr. 52.

65. Closing off the large lakes was considered beneficial for the management of the Hondsbossche seawall. This is usually overlooked in the literature, although it was mentioned by Brouwer in 1949: Brouwer, 'Hondsbossche sluis', 227–228.

66. Ter Braake, *Met recht en rekenschap*, p. 408.

67. Tim Soens, *De spade in de dijk? Waterbeheer en rurale samenleving in de Vlaamse kustvlakte (1280–1580)* (Gent: Academia Press, 2009), pp. 226–233. Another example is Jan Banninck, councillor at the Court of Holland. In the 1520s, he was the driving force behind the introduction of regional water management in Amstelland, where he was one of the largest landowners. Louman, 'Roerende', 150.

most villages and towns in the region, headed by three high-ranking officials (Van Assendelft, Van Bronchorst and Stalpaert van der Wiele) who used the power of the state to further their own specific interests, and supported by the sovereigns who expected to see their income from taxes and domains increase. It is an example of relatively successful cooperation between the (weak) state and regional elites to realise water infrastructure. At the same time, the project was fragile precisely because it did not form part of an overall state policy. It depended on the individuals who provided the driving force, and could therefore easily stagnate, as happened when its greatest supporter unexpectedly died or when local resistance proved too strong. The conflicts with Edam were not resolved, for instance. Ultimately, the Habsburg administration proved unable to set up an effective institutional framework to facilitate investment in infrastructure, as the English administration would do so successfully after the Glorious Revolution.

CONCLUSION

In the northern part of Holland in the mid-sixteenth century, regional water control emerged despite heavily conflicting water uses and a high degree of political decentralisation. In this article we focused on the role of institutions and tried to answer two related questions. The first question – which rules or norms underpinned the development of regional water management? – led to the identification of four administrative practices: a broad consultation process, by which opponents of the scheme were also heard; landowners giving their explicit consent to the plans and their costs; the proportional division of the costs; and the use of compensation for damage suffered. The second question concerned the influence of the state on the reorganisation of water management. Although the Habsburg administration proved unable to set up an institutional framework to solve coordination failures in infrastructure in general, it did provide a useful technique for gathering reliable, relevant and detailed information at the local and regional level: the *enquête* or inquiry. Habsburg bureaucrats had perfected the technique brilliantly for the purpose of optimising income from taxation and domains, but it also turned out to be an effective instrument for regional water management. However, the 1544 investigation only strengthened the effectiveness of the four traditional practices, which were all mechanisms to promote cooperation between communities that enjoyed a high degree of self-governance. The careful application of these practices compensated for weak state power, by focusing on gauging and broadening the level of support. This probably explains the overriding importance of these conventions in early modern Dutch water management more generally; the key principle underlying this approach was that every party would retain its autonomy.

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