

Managing Water in an Urban Land.

A New History of Rijnland

WILLIAM H. TeBRAKE

For someone who has spent a considerable amount of time over the past 35 years reading, thinking, and occasionally writing about Rijnland's past, *Waterstaat in stedenland. Het Hoogheemraadschap van Rijnland voor 1857* (Utrecht, 2006), by Milja van Tielhof and Petra J. E. M. van Dam, was a genuine pleasure to read.¹ First of all, this is a very attractive book: not only are the design and layout of the volume well done, but it is very richly illustrated. However, the illustrations constitute more than window dressing, for they were as carefully chosen and placed as the text itself; they form an integral part of the whole project. In any case, the authors and publishers are to be commended for the visual appeal of this work. Secondly, when placed alongside Ludy Giebels' recent account of Rijnland since 1857,² the publication of *Waterstaat in stedenland* marks the completion of a task long overdue, the updating of Rijnland's long history. As one of the oldest and largest regional *waterschappen* or water boards in the Netherlands, Rijnland has long attracted the attention of historians. Yet, the last comprehensive treatment of the pre-1857 history of the Regional Water Board of Rijnland was published by S. J. Fockema Andreae more than 70 years ago.³ In short, Rijnland now possesses what it has long deserved: a new, up-to-date, and comprehensive account of its past.

Rijnland is not the only regional water board to have received new attention from historians in recent years. Both of its neighbors to the south, the regional water boards of Delfland and Schieland,⁴ also have been the subjects of new histories; so too have others further afield, such as the Grote Waard⁵ to the southeast and the Stichtse Rijnlanden⁶ in Utrecht. Furthermore, such attention by historians has not been limited to regional water boards. Local ones also have been looked at more intensely, as any examination of the

¹ M. van Tielhof, P. J. E. M. van Dam, *Waterstaat in stedenland. Het Hoogheemraadschap van Rijnland voor 1857* (Utrecht: Matrijs, 2006, 368 blz., ISBN 90 5345 299 0).

² L. Giebels, *Hollands water. Het Hoogheemraadschap van Rijnland na 1857* (Utrecht, 2002).

³ S. J. Fockema Andreae, *Hoogheemraadschap van Rijnland. Zijn recht en zijn bestuur van den vroegsten tijd tot 1857* (Leiden, 1934).

⁴ C. Postma, *Het hoogheemraadschap van Delfland in de middeleeuwen, 1289-1589* (Hilversum, 1989); W. van der Ham, I. Jacobs, ed., *Hoge dijken, diepe gronden. Land en water tussen Rotterdam en Gouda. Een geschiedenis van Schieland* (Utrecht, 2004).

⁵ W. van der Ham, *De Grote Waard. Geschiedenis van een Hollands landschap* (Rotterdam, 2003).

⁶ M. Donkersloot-de Vrij, e. a., *De Stichtse Rijnlanden. Geschiedenis van de zuidelijke Utrechtse waterschappen* (Utrecht, 1993).

contents of the *Tijdschrift voor waterstaatsgeschiedenis* will confirm. In fact, interest in the history of water boards has been growing steadily since the founding of the *Vereniging voor waterstaatsgeschiedenis* roughly 20 years ago. Certainly, the focus that such an organization and its journal can bring to the topic, along with the fact that *waterstaatsgeschiedenis* or hydraulic history now is taught at the university level, goes a long way towards explaining the current, strong interest in this unique component of the Netherlands' past. Of course, it is ironic that this growing interest in water boards and their histories, whether local or regional, has come at a time when their numbers have been drastically reduced, as more and more local water boards have been combined into fewer and fewer regional ones (from roughly 3,000 to about 25 over the past half-century). Indeed, many recent histories of water boards have been written either to mark the end of a local water board's existence as it became subsumed into a larger, regional one or to mark the creation of an enhanced, regional water board through the fusion of smaller ones, as happened with Schieland, the Grote Waard, and the Stichtse Rijnlanden. This was not the case with Rijnland's new history, however. Rijnland was only modestly affected by the consolidation of water boards in recent years. *Waterstaat in stedenland* was produced primarily because it was long overdue, but the final impetus for the project came from the heightened interest provided by a series of celebrations marking significant anniversaries of important events in Rijnland's early history, the most recent of which was the celebration in October 2005 of the 750th anniversary of the so-called '*Magna carta*' of Rijnland (a charter by Count Willem II of Holland, issued 11 October 1255).

As its title makes clear, *Waterstaat in stedenland* is a history of the Regional Water Board or *Hoogheemraadschap* of Rijnland before 1857, and in this respect it resembles the classic study of Fockema Andreae. Furthermore, a quick survey of the contents of the two books shows a similar breakdown of the material being considered. In fact, some early descriptions of the project that produced the new book described it as an attempt to revise Fockema Andreae's work. However, closer examination of the two books soon reveals significant differences between them. Fockema Andreae's approach was in keeping with the time during which he wrote; he produced primarily an institutional history based exclusively on documentary evidence that covered the origins, development, and activities of the Rijnland Regional Water Board, with only minimal attention paid to the broader historical context within which Rijnland operated. Van Tielhof and Van Dam, by contrast, set out to write what has been termed a 'new hydraulic history'⁷ of Rijnland: not simply a revision of Fockema Andreae's study but a totally reconceived and newly written history. The question that needs to be answered, in this regard, is whether or not the new approaches and perspectives of such a new hydraulic history have in fact changed the hydraulic history of Rijnland to any significant degree.

⁷ See P. J. E. M. van Dam, 'De nieuwe waterstaatsgeschiedenis. De interactie tussen mens en natuur in Holland', *Holland*, XXXVI (2004) 128-141, which is the introduction to a special issue of the journal entitled 'De nieuwe waterstaatsgeschiedenis'.

The new hydraulic history, of which *Waterstaat in stedenland* can be seen as an example, emerged over the past half century as the result of three important shifts in historical practice: a significant broadening of the information relevant to hydraulic history through an assertively multidisciplinary approach, the application of an explicitly ecological interpretation to hydraulic history, and the thorough embedding of hydraulic history within its economic, social, and political contexts. The first efforts to broaden the evidential base of hydraulic history really began with H. van der Linden's 1956 thesis.⁸ By deriving what information he could from old maps and reinterpreting the available documentary evidence, he was able to drastically revise the early chronology of Rijnland's hydraulic history. Until then, most scholars, including Fockema Andreae, had simply assumed that physical conditions had changed little from the time of initial drainage and settlement until the end of the medieval period. Specifically, they believed that the elevation of drained land, the distribution of soils, and the regime of waters remained fairly constant from the early to the late middle ages. Such a view had far-reaching implications. For example, if dikes and the means of draining land behind them were a prerequisite to settlement at the end of the middle ages, then they also were a prerequisite to initial habitation as well. Because there was little evidence for extensive dike building before the twelfth century, the first meaningful settlement of Rijnland and vicinity was assumed to date from the twelfth century. In contrast to this, Van der Linden, while reconstructing the early settlement history of Rijnland and adjacent portions of Utrecht, clearly established that much of the area had been drained and settled during the late tenth and eleventh centuries, well before the first extensive networks of dikes were constructed. The original surface of the region, he argued, was much higher than it was at the end of the middle ages, so much so that the first inhabitants needed no dikes to protect themselves from flooding. All they needed to do was to dig shallow ditches and gravity would do the rest, transforming waterlogged peat into new land that could support settlement and agriculture. He did make clear, however, that human activity set in motion certain processes that caused the surface of much of Rijnland and surrounding areas to subside, eventually making dikes and various drainage devices necessary for continued habitation.

Since Van der Linden's pioneering work, geologists, archaeologists, soil scientists, and other historians have been able to confirm this chronology and to develop a much more nuanced picture of original physical conditions. In place of a static physical situation, the new hydraulic history sees much change over time. Physical scientists now contend that peat mires, peat-forming ecosystems were the distinguishing feature of the entire lowland zone of the Netherlands, including Rijnland, for a prolonged period of time before the middle ages. By the beginning of our era, centuries of peat accumulation had created enormous expanses of fen peats that filled the entire area between the sand dunes or salt marshes at the coast and the upland zone, some 30 to 80

⁸ H. van der Linden, *De cope. Bijdrage tot de rechtsgeschiedenis van de openlegging der Hollands-Utrechtse laagolakte* (Assen, 1956).

kilometers or more inland. Especially where peat layers were thickest and sediment-rich river water unavailable, plant species that depended solely on nutrient-poor precipitation began to predominate, especially peat moss, and capillary action within the peat moss actually raised the water table of bog peat above the levels of the surrounding fens, allowing their centers to become raised above their peripheries. By the early middle ages, peat bogs of varying height covered virtually all of the lowland zone; some, shaped like cushions, domes, or ridges, rose substantially (estimates range from four to ten meters) above the levels of the fen peats. Only a few parts of the lowland zone of the Netherlands never saw full bog development: along the major rivers in the central portion of the Netherlands where river sediments allowed wood peat development to continue; in the tidal estuaries of rivers and where coastal dunes were incomplete or breached; and in the large complex of shallow lakes and swamps that constituted the Almere/Zuiderzee. In the context of such an altered view of original physical conditions, it became clear that, until well into the early middle ages, residents of the extensive lowlands of the Netherlands lived for the most part within the parameters imposed by physical processes applied over geological time spans. Only a small proportion could support a permanent human population, primarily the highest stream banks and coastal salt marshes or the edges of the coastal dunes. The remainder, the fens and bogs, was essentially uninhabited. Then, beginning during the ninth century, physical processes increasingly were interfered with and deflected in a multitude of ways, as humans themselves became the shapers and formers of their physical surroundings, all within human, not geological, time spans. In short, a significant broadening of the sources of information has resulted in drastically altered ideas about when and where water management began, what physical conditions it was meant to address, and the means by which it was carried out.⁹

Secondly, in an attempt to fully comprehend the consequences of drainage, some historians since the early 1970s began to approach hydraulic history from an ecological perspective.¹⁰ An ecological perspective is one that sees humans and their environments engaged in complex and dynamic sets of relationships instead of static ones: the natural environment is not simply an unchanging stage upon which humans play out their lives but rather something that goes through natural changes that can affect human existence, but which also can be changed by humans, which in turn further affects human existence. There were both short term and long term consequences; over the short term,

⁹ W. H. TeBrake, 'Hydraulic Engineering in the Netherlands During the Middle Ages', in: P. Squatriti, ed., *Working with Water in Medieval Europe. Technology and Resource-Use* (Leiden, Boston, 2000) 102-106.

¹⁰ To my knowledge, I was the first to do so, starting in 1972; formally presented in *The Making of a Humanized Landscape in the Dutch Rijnland, 950-1350. Ecological Change in a Coastal Lowland* (Ph.D. diss., University of Texas, Austin, 1975); broadened in geographical scope in 'Ecology and Economy in Early Medieval Frisia', *Viator. Medieval and Renaissance Studies*, IX (1978) 1-29; and refocused on Rijnland and more fully developed in *Medieval Frontier. Culture and Ecology in Rijnland* (College Station, Texas, 1985).

drainage made settlement and agriculture possible; over the longer term drainage lead to the subsidence of the peat surface, something that Van der Linden pointed out already in his thesis. The new knowledge gained through multidisciplinary research about natural conditions began to make clear that, as water was drained out of peat, its volume decreased, over time by as much as 90 percent. Further, as peat dried, it began to oxidize.

De Veender, uit: 'Het verleden in beeld', bewerkt door Hein Vera (genea-knowhow.net 2008)

*De Veender.
't Is ongesien, Doch't kan geschien*



*Van onder't Waater word geheeven,
Een Stof, om Vuur en Vlam te geeven,
Tot nut en tegenweer der Kouw:
Soo most de Mens Mateeri vissen,
Van onder's levens kommernissen,
Tot Vreugd, die Eeuw'g gloorten souw.*

Current estimates suggest that subsidence and oxidation of peat had progressed so far by the end of the middle ages that most raised bog areas in Rijnland had been reduced to sea level or below. In other words, many areas that originally were drained by gravity flow could no longer be kept sufficiently dry for settlement and agriculture without an increasingly complex system of human artifice in the form of dams, dikes, sluices, and increasingly windmills.

The third component to the development of a new hydraulic history was its complete integration into the larger economic, social, and political currents of the times. Gone are the days when the history of a waterschap can be done based primarily on the documents the organization itself produced. The new hydraulic history sees water boards, both great and small, as products not only of their own internal rules and actions but also shaped to a large degree by the larger world of economy, society, and politics.

Van Tielhof and Van Dam have thoroughly and effectively incorporated the results of research from a broad range of disciplines into *Waterstaat in stedenland*. Thus they accept the new, much earlier chronology of first reclamation. In fact, they have extended such a multidisciplinary approach through the entire period covered by their study. Furthermore, they have totally embraced the new ecological approach of the new hydraulic history, yielding what Van Dam has termed elsewhere an hydraulic history with a green edge.¹¹ As a result, they have given very extensive consideration to the unintended consequences of human intervention in the natural world of Rijnland, the subsidence of its primarily peat surface. Indeed, this matter and the effects it had on virtually everything else is a fundamental focus of *Waterstaat in stedenland* and drastically different from older views of Rijnland's hydraulic history. Indeed, it dominates the book more than any other specific topic. Their use of an ecological perspective also led them to offering new insights into the processes of lake formation in Rijnland, especially the growth of the Haarlemmermeer. Van Tielhof and Van Dam see human action as the primary reason for its tremendous expansion during the late middle ages and the early modern period. Not only did drainage of peat cause surfaces to sink, making them much more susceptible to flooding, but centuries of peat extraction (up to the sixteenth century with the spade, after that with the dredging tool or *baggerbeugel*) destroyed the structure of the peat and left huge, gapping pools of open water that quickly eroded further and eventually combined with or were taken up in the lakes. In the course of their discussions of lake formation, continued across several chapters, the authors present convincing new evidence, not found elsewhere, concerning the timing and amount of peat extracted over the centuries.

With their decision to use the phrase *stedenland* in the title of their book, Van Tielhof and Van Dam have signaled the importance they accord to cities in the long hydraulic history of Rijnland. Despite the fact that much of the work of Rijnland Water Board over the years was ostensibly focused on creating an environment in which the land within its jurisdiction could be used to produce agricultural products, Rijnland existed alongside and interacted with cities through most of the period covered here. At least since the thirteenth century, cities and their new economic impulses became extremely important in all matters of water management. At the most obvious level, much of the peat that was being extracted flowed to the cities for use as fuel in heating houses and in fueling new industries. Indeed, peat extraction is treated

¹¹ Van Dam, 'De nieuwe waterstaatsgeschiedenis', 129, used the phrase, 'een moderne waterstaatsgeschiedenis met een groen randje.'

throughout the book not simply as something that Rijnland's administration tried, however unsuccessfully, to prohibit, limit, or contain, but also as a major part of the economic life of the western Netherlands; this is an excellent example of how attention to economic matters provides a more complete view of the problems associated with keeping the territory suitable for settlement and agriculture. Furthermore, the economic presence represented by cities, particularly as they became integrally linked to one of the most important international trade routes in western Europe, made certain kinds of imports of commodities such as cereals cheaper; thus the economic pressures of high demand for peat and difficulty of local peasants to produce cheap cereals because of the increasing expense of maintaining drainage to facilitate grain farming changed the economic calculus for local rural populations. Further, according to Van Tielhof and Van Dam, economic issues such as access to capital or wage and price trends, were just as important, if not more so, as technological and/or management issues were in determining whether or not *droogmakerij* or lake drainage scheme to create agricultural land would be undertaken. Finally, Fockema Andreae and others of his generation saw the counts of Holland or other social elites as initiators of most early hydraulic works as well as the institutions for hydraulic oversight. Meanwhile, Van der Linden and others emphasized the exact opposite: early water management and intervention, as well as the earliest institutions for oversight or administration of water management came from the bottom up. Van Tielhof and Van Dam provide a more balanced view inspired by recent research concerning the initiation of urban rights during the middle ages: often those who sought to acquire rights and authority, whether in hydraulic or urban affairs, approached the prince and asked for them, and, in doing so, they often encountered a princely policy already inclined to grant what was requested.

In summary, Van Tielhof and Van Dam have used an explicitly multi-disciplinary approach, employing not only documentary evidence but also the findings of archaeology, geography, and physical and biological science, they have applied a distinctly ecological perspective to their work, and they have placed at least as much emphasis on the broader historical context within which Rijnland existed as they did on its own internal, institutional development. In doing so, their new hydraulic history of Rijnland seems to have abandoned forever the old, grand narrative that become so closely associated with Dutch national identity during the nineteenth and early twentieth centuries – an heroic struggle against a powerful enemy, nature, but with a generally onward and upward trajectory of human progress against that enemy.¹² Indeed, I wonder if we might be able to speak here of a paradigm shift having taken place. First of all, the accumulation of much more data from geography, archaeology, and physical and biological science began gradually to chip away at the old grand narrative, as much of the new information brought to light no longer fit into the old picture. Secondly, with the advent of a heightened ecological awareness generally and increasingly applied to the past,

¹² See a brief discussion of this grand narrative in Van Dam, 'De nieuwe waterstaatsgeschiedenis', 128.

the outlines of a new grand narrative seem to have emerged, one that sees humans and their environments constantly negotiating with each other, sometimes leading to a gain of land with respect to water and at other times leading to a loss of land.¹³ In any case, this volume clearly indicates how thoroughly the historiography of water and its management has been transformed over the past 50 years. Indeed this is a mature example of ecological or environmental history, not self-conscious in the manner of earlier days, when its practitioners still were trying to prove the usefulness of such an approach, but self-assured, clear, and compelling.

I began this review by remarking on how it was such a pleasure to read *Waterstaat in stedenland*, not only because of its of its attractiveness but also because it answered a long-felt need for a new history of Rijnland to 1857. But there was another level of pleasure in it for me. The ecological approach has not always been welcome in Dutch historiography. My 1985 volume, arguably the first formal attempt to use an ecological perspective in hydraulic history, was widely reviewed and generally well received in almost all quarters,¹⁴ except for the Netherlands: to my knowledge, it never was reviewed in a Dutch historical journal. It is therefore gratifying to see how today an ecological perspective has become thoroughly and completely incorporated into the new hydraulic history, for *Waterstaat in stedenland* is nothing if not 'green' from beginning to end.

William TeBrake (1942) is Professor of Medieval History at the University of Maine, in Orono, Maine, USA.

Summary

William TeBrake, *Managing Water in an Urban Land. A New History of Rijnland*

Waterstad in stedenland, a history of the Hoogheemraadschap Rijnland before 1857, is a fine example of the 'new hydraulic history.' By drawing information from a broad range of sources, employing an explicitly ecological approach, and imbedding their work in the social, economic, and political history of the period they cover, Milja van Tielhof and Petra J. E. M. van Dam have produced a well-researched, clearly-written, and attractive volume that is a worthy successor to Fockema Andreae's classic study of nearly 75 years ago.

¹³ Indeed, Van Dam has pointed to such alternating phases in earlier work: see her *Vissen in veenmeren. De sluisvisserij op aal tussen Haarlem en Amsterdam en de ecologische transformatie in Rijnland 1440-1530* (Hilversum, [Haarlem], 1998), as well as 'De nieuwe waterstaatsgeschiedenis'.

¹⁴ See, for example, the reviews by Robert Fossier, in *Le moyen âge*, LXXXIV (1988) 141-142, and especially by D. Nordman, 'Frontière, histoire et écologie', *Annales. Économies, sociétés, civilisations*, XLIII (1988) 277-283.

Polderland

MAARTEN PRAK

Water, polders, gras en turf — kan het Nederlander? Het boek dat Milja van Tielhof en Petra van Dam schreven naar aanleiding van het 750-jarig bestaan van het Hoogheemraadschap Rijnland gaat over wezenlijke aspecten van de Nederlandse geschiedenis en identiteit.¹ Omdat Rijnland bovendien het kerngebied bestrijkt van Holland, ruwweg tussen Haarlem en Amsterdam in het noorden en Den Haag en Gouda in het zuiden, kunnen we in dit boek die wezenlijke aspecten observeren op misschien wel de meest toepasselijke locatie. De auteurs bespreken in dit met fraaie illustraties en informatieve terzijdes verluchte werk een groot aantal facetten van hun onderwerp. Uiteraard de beheersing van het water, waarvoor het Hoogheemraadschap in het leven was geroepen. Dat wordt niet alleen beschreven als een bestuurlijke opgave, maar ook als een technologische uitdaging. Nieuwe ontwerpen voor sluizen en molens, het probleem van het opwaaiende water, of het opmeten van grote wateroppervlakten komen allemaal inzichtelijk aan bod. Daarnaast komt de lezer veel te weten over de economie van het Rijnlandse polderlandschap. En Van Tielhof en Van Dam gaan uitvoerig in op de ecologische uitdagingen waarvoor het Hoogheemraadschap zich gesteld zag. Uitdagingen die deels het gevolg waren van natuurlijke ontwikkelingen, zoals de stijging van de zeespiegel en de oxidatie en inklinking van het veen, maar vooral ook door menselijk ingrijpen werden veroorzaakt: onverantwoorde methoden van sluisvisserij ondermijnden waterstaatkundige bouwwerken, de vervening veranderde steeds meer droog weiland in natte plas. Daardoor werd Rijnland in de loop van de tijd niet alleen van buiten, maar evenzeer van binnen door het water bedreigd. Opeenvolgende kaarten doen die verwatering sterk uitkomen, met als dramatische apotheose het ontstaan van het Haarlemmermeer in de late vijftiende en het begin van de zestiende eeuw.

Over het Hollandse polderlandschap zijn twee belangrijke stellingen in omloop. De eerste is dat het de geboorteplaats is van de commerciële economie van Holland. In zijn bekende overzicht van de Nederlandse geschiedenis van deze periode noemt Jonathan Israel de afwezigheid van feodale verhoudingen in de gekoloniseerde gebieden van West-Nederland als de eerste voorwaarde voor het ontstaan van een ‘prevailing pattern of short-term leases of farms for money rents.’² Jan de Vries en Ad van der Woude typeren de economie van West-Nederland in de vroege zestiende eeuw als ‘een plattelandseconomie met een wijdvertakt netwerk van markten, dat in een modern aandoend sociaal en institutioneel kader functioneerde.’ Dit was het gevolg van een kolonisatie die

¹ Naar aanleiding van M. van Tielhof, P. J. E. M. van Dam, *Waterstaat in stedenland. Het Hoogheemraadschap van Rijnland voor 1857* (Utrecht, 2006). Dank aan Bas van Bavel voor zijn commentaar bij de eerste versie van deze tekst.

² J. I. Israel, *The Dutch Republic. Its Rise, Greatness and Fall, 1477-1806* (Oxford, 1995) 107.