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Conditions Influencing Municipal Strategy-Making for Sustainable Urban Water Management: Assessment of Three Swedish Municipalities

Erik Glaas ^{1,*} , Mattias Hjerpe ¹  and Robert Jonsson ²

¹ Department of Thematic Studies - Environmental Change, Centre for Climate Science and Policy Research, Linköping University, 581 83 Linköping, Sweden; Mattias.hjerpe@liu.se

² Department for Studies of Social Change and Culture, Centre for Municipality Studies, Linköping University, 581 83 Linköping, Sweden; robert.jonsson@liu.se

* Correspondence: erik.glaas@liu.se; Tel.: +46-11-363183

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Abstract: Strategy-making is key for realizing sustainable urban water management. Though general barriers and factors for change have been identified, fewer studies have assessed how different conditions influence municipalities' strategy-making ability and, thus, how to plan strategically given these conditions. Healey's strategy-making notion was applied to delimit a study of how size, finances, development path, and water organization influence Swedish municipalities' strategy-making ability for urban water. Three municipalities, Laxå, Norrköping, and Skellefteå, with different, yet overlapping, institutional and socio-economic conditions were analyzed using semi-structured interviews, a stakeholder workshop, and document analyses. The study finds that even though key events have filtered urban water issues into the political agenda, this has not induced systemic change, except where the role of water management in urban development has been specified, i.e., has aligned dispersed planning processes. Organizational setup influences the strategy-making ability by prescribing not only when water issues are raised, but also what system perspective should be applied and what actors that should be enrolled. Judging from the three cases, size, finances, and development path do matter for strategy-making ability, but they appear to be less important than the organizational setup. Departures for improving strategy-making under different conditions are discussed.

Keywords: municipal; planning; strategy-making; urban; water

1. Introduction

Climate and environmental stress in combination with an aging water infrastructure and ongoing development, densification, and reshaping of cities put high demand on strategy-making for urban water management. Yet, shifts towards more holistic and sustainable approaches have been slow [1,2]. Consequently, forward-looking plans for and investment in water infrastructures have rarely been prioritized, and pluvial flooding and water pollution have become increasingly severe [3]. Arguably, current challenges for sustainable urban water management now depend more on our limited understanding of their governance than on access to suitable technical solutions [1].

As found in previous research, path-dependency, sector-focused planning, institutional and legal obstacles, and a complex distribution of responsibilities have been demonstrated to be barriers for the strategic planning of urban water [4]. Important steps forward thus include the integration of various urban planning disciplines [5] and expanding the notion of "robust decision-making" of urban water [6]. To improve strategic planning, studies have stressed the need to increase consideration of

urban water issues in wider urban planning and governance processes [7] in order to increase political priority [8] and learn about factors that enable and constrain strategic and inclusive planning [9].

Sweden represents a context where technologies and institutions for sustainable water management largely exist, but where the transition from a pipe-bound, vulnerable, and inefficient water system still has been slow. Long-term urban water and climate adaptation planning is only loosely regulated in Swedish national policy, and is thus mainly decided upon by individual municipalities. Similar barriers as those mentioned above have been identified in the Swedish context, often departing from uncertainty as to whether water planning mainly should be assigned to urban planning departments or water utilities, making actors hesitant to advance [10]. At present, few municipalities in Sweden are working in long-term urban water planning collaboratively, and often urban water actors rather than urban planning actors have pushed for strategic action without being sufficiently listened to [11,12].

To move forward, scholars have called for planning processes that acknowledge and integrate sustainable water issues early in comprehensive and detailed development planning [10]. Municipalities must also break away from traditional pipe-bound, technocratic, and centralized municipal water systems [10], which entails increased priority in planning, currently presented as constraining action [12]. Nevertheless, there is no one-size-fits-all solution for approaching urban water strategically in planning due to the diverse local conditions influencing the municipalities' strategy-making abilities. Though much is known about barriers in general and that local water challenges aggravated by climate change increase the need for more strategic water planning, there is less research examining how different institutional and socio-economic conditions influence the ability of municipalities to approach urban water strategically in planning and, consequently, how strategy could be approached under different sets of conditions. Moreover, conclusions have mostly been derived from the perspective of water utilities, without specifically considering in what way urban planners and politicians perceive urban water as a strategic issue, and how these perspectives shape water governance.

This study aims to advance the understanding of how institutional and socio-economic conditions influence municipal strategy-making ability for urban water by analyzing three municipalities with different, yet overlapping, conditions in terms of size, finances, development path, and water organization: Norrköping, Laxå, and Skellefteå. Informed by the concept of strategy-making [13–15], we analyze how such conditions influence the strategy-making ability within three dimensions deemed important for strategy-making: filtering through key events, framing the desired state, and mobilizing momentum by “enlarged intelligence”. The following research questions have guided the study:

- How do a municipality's size, finances, development path, and water organization influence its ability to strategically plan for sustainable urban water management?
- How can municipal strategy-making ability be improved under different sets of institutional and socio-economic conditions?

The paper is structured as follows: Section 2 presents the theoretical departure and how it has been operationalized in the study. The subsequent section describes the cases, methods, and materials used. Section 4 accounts for how the three analyzed municipalities have approached strategy-making in each of the three targeted planning dimensions. Section 5 discusses how municipal strategy-making ability is influenced by the various analyzed conditions, highlighting that size, finances, and development path do matter, but that they appear to be less important than the organizational setup. Section 6 concludes the paper and discusses how strategy-making ability could be improved for municipalities given different sets of conditions.

2. Theoretical Departure

Much research has focused on how to advance planning for sustainable urban water management. Studies are informed by different conceptualizations of how such a transformation process is constituted

and how it should be developed in order to facilitate new innovative forms of planning, illuminating different types of drivers for change, barriers, and implementation logics [16,17]. Without providing an exhaustive list, a few theoretical departures can be exemplified. One departure builds on Transition Management theory, in which transition is perceived as highly intentional and goal-oriented, highlighting the need to develop project teams, shared visions of problems and future pathways, local coalitions, and experimentation as building blocks for change, e.g., [18,19]. Other departures assume that cross-sector collaboration and scenario planning interventions can facilitate the current planning of sustainable urban water management [2,20]. Other scholars are opposed to representing sustainable water management as an implementation process and argue that it should be conceived of as an evolutionary process, highlighting social learning, stakeholder involvement, and backcasting, arguing that “planning for sustainable development needs to go beyond traditional planning and strategy” [21].

Nevertheless, scholars generally agree that cross-sectoral collaboration is decisive and a frequently occurring barrier for change and transition to sustainable urban water management [22]. In addition, committed leadership, a clear understanding of the problem, joint visions of the desired future, system awareness, and broader collaborations are also emphasized within the various theoretical departures.

Building on these factors when developing planning procedures will likely provide some answers to how strategy-making ability for sustainable urban water management can be enhanced. However, though such scholarly thinking has advanced and somewhat influenced the rhetoric in planning, it has not yet altered planning practices much [23]. One reason is that cities and municipalities are heterogeneous entities, operating under different conditions and planning cultures [17,23,24], making it hard to apply a generalized planning approach without an understanding of how different institutional and socio-economic conditions influence their strategy-making ability. Gaining a more nuanced understanding of how local conditions influence their strategy-making ability could potentially support developing the building blocks for change as described above.

To delimit the analysis of “strategic” aspects of urban water planning in the three cases, this study departs from Healey’s strategy-making notion to pinpoint three dimensions deemed important for strategy-making, which are presented as avenues for making water management “strategic” [14,15]. This theoretical departure was chosen because it pinpoints where urban water strategy-making it is most likely to be found in the three cases. If we would have tracked the implementation of a specific policy or goal, an agenda setting or a policy implementation theoretical departure would have been more adequate. The strategy-making notion recognizes that planning is not only about regulating land use, but it also concerns strategic management as part of broader urban governance processes [13,25,26]. As Healey reminds us, a planning process is never strategic “by default” and strategy-making “challenges practices that are justified in terms of following established procedures or this is what we have always done” [14] (p. 30). We apply Healey’s notion by examining the interface between water planning and spatial planning to analyze whether and to what extent urban water is considered on a strategic level in urban planning. The strategy-making notion recognizes the importance of planning inertia that follows from routinized practices embedded in powerful discourses and cultural assumptions, holding them in place despite attempts at change.

Three dimensions important for strategy-making in planning highlighted by Healey were analyzed in this study: filtering through key events, framing the desired state, and mobilizing momentum through building “enlarged intelligence” [14,15]. These dimensions represent arenas where a reorientation of established planning routines and practices to enable strategy-making is deemed crucial.

2.1. Filtering Through Key Events

Filtering includes drawing on key events to influence the attention given to a particular issue in planning; here, the issue is sustainable urban water management. Key events can aid planners to (re)shape the understanding of this issue among local leaders as well as the public in relation to other

urban issues, providing opportunities to raise issues on the political agenda [14,15]. In the urban water context, previous studies suggest two concrete types of key events.

First, extreme weather events, such as floods or cloudbursts, have frequently been found to affect the political significance of urban water issues [27,28]. In general, these studies, however, contend that a crisis rarely triggers strategy by itself. Rather, responses are sometimes made without challenging the general urban planning and development approach.

Second, external changes can directly or indirectly affect a specific planning issue. Such changes can be, e.g., policies or projects that intend to directly influence planning of that issue or changes in the surrounding planning or decision-making landscape that indirectly shed light on the planning of that issue [29]. External changes can enable strategic planning of urban water management at the municipal level, but they have also been shown to delimit the scope of planning and to create conflict [30]. This depends on how these changes are filtered and approached locally.

2.2. Framing

Strategic planning requires a “frame” that functions as an organizing principle, defining what counts as relevant for attention [15]. This frame is ‘more than an aggregation of issues and claims that have survived prior filtering processes Strategy formation involves the generation and consolidation of a new frame with its supporting storylines and metaphors’ [14] (p. 189). Framing, hence, concerns judgements about what to position frontstage and what to leave backstage, i.e., what issues to prioritize in local planning [15].

In the urban water context, scholars have argued that “the urban water management system has traditionally been regarded as a stand-alone system”, compromising political priority [31] (p. 11). Making it more strategic would entail creating a frame where “water challenges need to be considered through the process of developing cities” [32] (p. 42). If powerful enough, this new frame could facilitate strategy-making among politicians and planners and create incentives also for non-urban water actors to engage in water planning [31]. Critical preconditions for creating this new frame include clear municipal visions of sustainability and attractiveness to which urban water issues can be attached [12].

2.3. Mobilizing Momentum Through Building “Enlarged Intelligence”

Mobilizing momentum through building enlarged intelligence is about establishing formal legitimacy, competence, and learning for implementing actions. It involves creating advocacy coalitions and resources and engaging strategic leaders with the ability to influence planning practices [14]. It also implies the ability for planners to explore and recast agendas and potential actions through accessing multiple sources of professional and scientific knowledge.

In the urban water context, three factors that mobilize momentum have been highlighted in previous research. First, political legitimacy of, and resources devoted to, change toward alternative solutions is one important means to facilitate strategy-making [28,33]. Second, structural aspects, including fostering a culture to promote and fund innovation [34], and a strategic location for urban water in the municipal institutional chart [31]. Third, a reconciliation of the water-planning dichotomy by broadening participation and taking advantage of several competences in joint collaborative planning have been found to be important [12,32].

2.4. Operationalizing the Strategy-Making Notion

Overall, the strategy-making notion assumes that the above dimensions together outline both how a reorientation of urban planning might be accomplished and where strategy-making for urban water is most likely to be found. Analyzing strategy-making based on these three dimensions enables an assessment of how different local institutional and socio-economic conditions influence the municipality’s ability to approach strategy-making. It also helps to identify how urban water issues

are currently negotiated and viewed in the wider urban development context. An outline of how these dimensions were researched in this study is presented in Table 1.

Table 1. Dimensions used to analyze strategy-making for sustainable urban water management.

Dimension	Planning Context	Questions Asked
Filtering	Utilizing key events	Has any particular event triggered municipal strategy-making for urban water?
Framing the desired state	Visioning sustainable water management	How are urban water issues perceived to be linked to development? Have any visions or goals been developed?
Mobilizing momentum through building “enlarged intelligence”	Creating legitimacy, competence, and resources	How has urban water planning been arranged? To what extent have leadership, competences, resources, and learning been mobilized?

3. Cases and Methods

Three case municipalities were selected to enable comparisons between cases that have different, yet overlapping, conditions to target how combinations of the conditions shape their ability to approach strategy-making [35]. The four institutional and socio-economic conditions size, finances, development path, and water organization are distributed among the three cases as in Table 2. Though the cases differ, two cases share similar characteristics for each of the conditions. The cases are spread geographically: Laxå and Norrköping are situated in the middle of Sweden, and Skellefteå in the North. Further, while Norrköping and Skellefteå are located along the coast, Laxå is located inland. Except for sea level rise, which is expected to be compensated for by the land uplift in Sweden during the coming century, the municipalities are similar in terms of anticipated future changes in both precipitation and temperature (www.visadapt.info). Moreover, the cases were selected partly because all three municipalities have experienced internal or external events that theoretically could have influenced strategy-making for urban water [14,15]. These events, however, have panned out differently as presented in the results below.

Table 2. Conditions in Laxå, Norrköping, and Skellefteå [36].

Condition	Laxå	Norrköping	Skellefteå
Size	Small	Mid-sized	Mid-sized
Finances	Weak	Quite weak	Strong
Development path	Shrinking	Growing	Growing
Water organization	Utility	Utility	Department

Semi-structured individual interviews, a stakeholder workshop, and analyses of municipal planning documents were utilized to analyze “strategic” aspects of urban water management in the three municipalities. The interviews were conducted to collect perspectives, examples, and ideas regarding how urban water is approached strategically in each municipality, especially targeting the integration of water planning into strategic urban development (Table 3).

Table 3. Interviewed staff in Laxå, Norrköping, and Skellefteå.

Interviewee	Date	Length
Director of the water utility, Norrköping	22 June 2017	1 h
Stormwater coordinator, Norrköping	15 May 2017	0.5 h
Project leader for the comprehensive plan, Norrköping	9 May 2017	1 h
Director of the water utility, Laxå	14 March 2017	1 h
Secretary and former chairman of the Municipal Council, Laxå	23 January 2017	1 h
Head of Technical Administration, Skellefteå	22 December 2016	1.5 h
Municipal Director, Laxå	21 December 2016	1 h
Economic executive, Skellefteå	14 December 2016	1 h
Water executive, Laxå	27 April 2016	2.5 h
Water and sewerage director, Skellefteå	12 April 2016	4 h

To complement the relatively short interviews in Norrköping, a 3-hour-long workshop on challenges in and current approaches to urban water planning in Norrköping was conducted with representatives from the municipal water utility in May 2017.

To systematically gauge how urban water issues are covered in municipal plans, and to complement the interviews and workshop above, documents related to water (Water Plans, Annual Reports), planning (Comprehensive Plans, Municipal Policies for Reinvestment and Land Exploitation), and steering documents (Municipal Annual Reports, Municipal Vision, Municipal Budgets) were analyzed. The documents reflect whether and how the perspectives found in the interviews and workshops have been formalized.

The interviews and workshop were audio-recorded and transcribed. The interview transcripts were first analyzed individually followed by concentration on the meaning of reoccurring statements and perspectives. The validity of the analysis is strengthened by comparing statements both among the interviewed staff and by contrasting their views with visions and practices presented in the planning documents.

4. Results and Analysis

This section presents how strategy-making for urban water management has been approached within each of the three analyzed municipalities and examines how the four conditions influence their strategy-making ability by detailing the three dimensions deemed important for creating strategy: filtering through key events, framing the desired state, and mobilizing momentum through building “enlarged intelligence”.

4.1. Norrköping

Norrköping represents a municipality with a mid-sized and increasing population and moderate municipal finances. The future population is expected to continue to grow rapidly due to the establishment of a national high-speed railroad station [37]. The organization of water has been changed from a public multi-utility through to a private multi-utility and finally to a delimited public water utility. The Norrköping case depicts a situation with high demands for strategy-making to enable sustainable water management in a fast-growing city. In terms of sustainability aspects in urban water management, Norrköping has a somewhat sensitive drinking water supply (only one water source and an old waterworks), areas with highly polluted soil (stemming from heavy industry), an old sewage and stormwater system, and low-lying areas threatened by floods if facing cloudbursts.

4.1.1. Filtering

A cloudburst hitting Norrköping city center in July 2011 resulted in heavy damage, including the flooding of some 850 basements, and a prolonged process to establish liability between the water utility and insurance companies. This key event was perceived to have spurred discussions on the

need to maintain the relatively poor status of the water infrastructure. Following the cloudburst, municipal actors have emphasized that climate change scenarios display more heavy rain in the future, aggravating the risk for flooding in several areas. Interviews indicate that the cloudburst has been working as an eye-opener also for the local politicians—thus acting as a trigger for political engagement in urban water—as stated by the project leader for the comprehensive plan:

“Politically, in Norrköping, one has begun to draw attention to the fact that a city needs a water system that is designed to handle extensive rainfall. If you don’t have that in a city, it will have dramatic consequences.”

Partly because of this, a decision to develop guidelines for climate adaptation—especially emphasizing stormwater management—was taken in 2014. Significant and accelerated population growth is understood to have increased the demand for new plans and housing, and consequently, for assessing the implications of and for urban water. Interviewed planners and water utility staff, however, express a will to become more involved in these urban planning processes to consider stormwater management earlier on in planning. As emphasized in the workshop, though flood risks are discussed, they have not yet influenced planning much. The relatively isolated water utility appears involved in planning foremost as a knowledge provider and not as a co-producer of plans. Arguably, flood risks are visualized in the 2017 comprehensive plan, but they have not influenced the location of new housing or how urban water should be approached. For the most part, the workshop participants still assumed that increased dimensions of pipes will solve most of the problems.

Despite the expressed need to focus more on water issues in planning, thus, we were unable to find any strategic approaches that link urban water management to urban development or elaborate how to collaborate on a strategic level. According to the project leader for the comprehensive plan, the cloudburst has spurred discussions on how to increase the capacity of the storm-water system and that the municipal water and sewerage plan works as an important tool to make this happen. This plan, however, focuses on extending the municipal sewerage system rather than addressing pluvial floods, indicating the lack of capacity at the strategic level to approach sustainable urban water issues in planning.

Indeed, Norrköping’s approach to water issues in urban planning seems to have been largely ad hoc even after experiencing the key event. According to the workshop participants, planning is still seen as providing cheap and technically robust water services to customers on the one hand, and on not compromising urban development on the other. Thus, it appears, and was also argued by several interviewed officials, that the extensive development path has put so much pressure on producing plans that there is simply not enough time to fully incorporate urban water issues from an overarching strategic perspective. Since politicians mainly point towards the need to build a more robust water infrastructure, urban water management is viewed as a form of risk reduction and not as an important component for realizing a greener and more attractive city.

The development path and the water organization thereby appear as inhibitors rather than facilitators for strategic water planning. As argued by an interviewee at the water utility, urban water management and climate adaptation are pushed down to managers, who respond by trying to push the issue back up through the municipal organization.

4.1.2. Framing

The results further suggest that even though urban water has emerged as an issue to consider in urban planning, how it should be integrated into urban development is still not settled. The interviewees from the water utility frame cloudbursts mainly in terms of their impact on the technical infrastructure and the ability to deliver water services as required by the water services law. Planners and politicians, conversely, contend that urban water should not compromise urban development. Urban water is, thus, described as a means for urban development. However, its wider implications for city attractiveness and citizens, or its interconnectedness with other technical

infrastructures, have not yet been operationalized in planning [31,32]. In planning, thus, water utility staff have been assigned and are acting as risk advocates for specific areas under consideration for urban development rather than as co-producers of long-term plans. Illustratively, the water utility noticed that only one out of all 46 areas that were proposed for development in the comprehensive plan was deemed suitable for development from an urban water perspective. Water utility staff generally discussed urban development and densification as threatening the sufficient distribution of water services rather than as an opportunity for investment. As a water utility representative stated:

“To be able to build on useless sodding ground here which people should live on, they have to build on useless crap land for companies to build on there, it’s like [. . .] you have to build smart [. . .] It’s a matter of guts to not destroy the city through densification”

This indicates a trench war-like situation where representatives from the water utility fight new developing areas which they see will aggravate flood risk and impair sufficient water distribution. Here, the water utility expresses that politicians do not listen to them [11], and they are only seen as focusing on getting income by selling land:

“We have to get listened to, that’s the most important, they [politicians] have to listen to our solutions otherwise we will not be able to handle the problems if they say no, we shall build there as well”

However, the water utility staff do not view it as within their responsibility to present where or how new development areas should be built to be as resilient as possible. Urban planners, thus, largely portray water utility staff as “brakepads” for planning and building by acting unconstructively, often leaving them outside concrete planning projects without their perspectives being sufficiently integrated into planning. Still acknowledging the potential role of urban water for urban development, politically a goal for urban stormwater has been established as one of 19 goals for the whole municipality. As the project leader for the comprehensive plan stated:

“Politicians in Norrköping have started paying attention to the fact that a city needs to have a stormwater system designed to handle heavy rains.”

Despite establishing this goal, water utility staff emphasize a lack of political ambition, understood as unclear political direction of the exact level of risk that the urban water infrastructure should be able to handle (e.g., a 100-year rainfall), what capacity the emergency water supply should have, and what capacity the wastewater treatment plant of the municipality should have. This indicates a large strategic role assigned to politicians rather than to the water utility, who themselves merely describe their role as technical system operators.

In framing the desired state of urban water, thus, the organization of water into a municipal utility and the high development pace appear to impede the strategy-making ability in Norrköping.

4.1.3. Mobilizing Momentum

To avoid the above cross-sectoral divisions impeding on water planning, a new position has been developed in Norrköping with the task of facilitating cooperation between the technical department and the water utility. As this example and the interviews indicate, strategy has been approached mainly as an issue of solving an unclear distribution of responsibilities to spur the implementation of robust measures. For example, an already established inter-sectoral platform for collaboration has produced a model for the distribution of responsibilities for stormwater management and revised the stormwater strategy to better reflect the need to reduce flood risk and implement climate adaptation measures. The proposed strategy has been scrutinized by other municipal departments and has not yet been adopted politically. Nevertheless, some of the interviewed water utility staff do not view this strategy as a productive way to implement robust stormwater solutions, as one of the workshop participants argued:

“It gets comical when we should search for a model saying why we should do this, both building and operating it, it almost gets pathetic”.

This indicates that there is still no shared vision of how sustainable urban stormwater should be planned and operated. Interviewees stated that the water utility’s organizational form fosters a focus on securing service delivery, and that “increasing the planning horizon and meeting other social needs” is the biggest challenge ahead.

In the newly adopted comprehensive plan, urban water issues emerge frequently, most apparently as flood risk but also in sections on blue infrastructure and climate adaptation. The plan also refers to water as an element for city attractiveness, indicating an entry point for strategy. However, seemingly due to poor cooperation on strategic elements of urban water issues between the water utility and comprehensive planning, the comprehensive plan merely highlights flood risk areas rather than presenting how water should be managed in various parts of the city, making it less useful for investigating the need for water measures in detailed development planning.

This divide might partly be explained by the organizational instability, where the planning and strategic competencies in the water utility have been low. New staff and competence have been recruited to test new technical measures, which have resulted in a better ability to adapt the stormwater system. Conversely, the high demand to produce new plans implies pressure on scarce urban water planning and design competencies. Assisting in producing effective new plans is pitted against renewing the weakest parts of the current water infrastructure. We also found that the water utility and technical department have funds for the renewal of the piped system and climate adaptation measures. Some measures have been undertaken, such as detention reservoirs and using parks as flood ponds. However, these seem to not be selected based on strategic considerations. Gradually, though, the water utility and technical department have gained knowledge about vulnerable parts of the technical systems, indicating a growing ability to assess the effectiveness of alternative measures.

Judging from the above, for mobilizing momentum also the organization of water in Norrköping seems to impede strategy-making for urban water. Though several responses have been instigated to strengthen cross-sectoral collaboration and to increase the competence base, these investments have been implemented at an operational rather than strategic level, and therefore do not influence overarching planning to any great extent.

4.2. Laxå

Laxå is a municipality with a small, shrinking population and weak municipal finances. A municipal utility manages water and sanitation. The Laxå case was selected to include a rarely studied water planning situation depicting high demands for strategy-making to enable sustainable urban water management with a low budget in a municipality with a shrinking population [38,39]. In terms of sustainability aspects in urban water management, Laxå has a poor sewage and stormwater system experiencing leakage, a shrinking demand for drinking water, and a sensitive receiving body of water close to the city center.

4.2.1. Filtering

We found that large-scale socio-economic and demographic trends have been and still are impeding on the possibilities for strategic urban water management in Laxå. As explained by the secretary and former chairman of the municipal council, in the late 1990s the municipality needed to invest SEK (Swedish kronor) 10 million in a new waterworks. The municipal finances then were very weak, causing trouble for the municipality to finance this investment. Consequently, a municipal water utility was created, which, according to the director of the water utility, made it possible for the newly established utility to finance the investment through loans. In those days, there was a strong tendency for New Public Management that favored corporatization and the establishment of municipality-owned water utilities in Sweden as in the rest of Europe [40]. After the corporatization, interviewees describe a rapidly emerging culture among local politicians to “leave the water company

alone to mind their own business". This suggests that the municipality did not intend to pursue any urban water strategy; this task was delegated to the water utility. The local councilor at the time arguably emphasized a focus on caring and education, where urban water issues were largely forgotten. The water utility was instructed to deliver water services at low cost and there was very little investment in renewal of the water infrastructure. As time passed, socio-economic change continued to put pressure on the municipality's finances, economic activity, and population, resulting in a low pace of renewal. Accordingly, around 2010, the executive of the water utility realized that a change was needed to avoid "a systemic collapse" and the ability to deliver water services. To some extent, this worked as a key event filtering urban water onto the political agenda. The municipal officials confirm this picture.

The interviews also illuminated an external factor that has triggered a discussion of urban water. Laxå has been invited to participate in the planning of a large regional water supply project, "Vätternvatten", which aims to provide robust water supply for several neighboring municipalities and the regional population center. Even if this matter also has been discussed politically, it has not yet led to any clear decision. The uncertainty as to whether or not the municipality needs this project indicates a lack of strategy-making on urban water management as well as a lack of system awareness at the municipal strategic level.

In Laxå, thus, the weak municipal finances in combination with a population decrease seem to have acted as a blinder for water issues despite being pushed for by local water officials and surrounding municipalities. Being a very small municipality from the beginning has further meant a low turnover in water-related investments and a poor ability to strategically approach urban water. According to the director of the water utility, as opposed to environmental inspections, which are required in Swedish law and in which Laxå has been forced to cooperate with small nearby municipalities to maintain viable management, water issues are not pushed for in the same way by the government. Consequently, maintaining an efficient and climate-resilient water infrastructure has not been prioritized. Except for the poor finances, the water organization appears as a delimiting condition for urban water strategy-making. The water utility is not being perceived as a co-producer of strategic plans but rather as a maintenance department.

4.2.2. Framing

The study reveals several reasons why urban water issues are not related to urban planning and development in Laxå. Firstly, internal reasons: the executive of the water utility recalls that no resources were allocated to strategic planning. Rather, all resources were allocated to maintain the water infrastructure, but the amount was still much less than needed. Urban water strategy, thus, was not prioritized. Secondly, there was very little urban planning done. As the executive of the water utility states:

"Laxå has not needed to establish any new urban areas since long. Despite that there is need for actively pursuing urban development. Sometimes infrastructural change is needed and land needs to be developed for industrial purposes. Here, there has been no overall collective picture, no planning."

This is perceived to hamper strategy-making ability for urban water because "the different parts, not the least water and sanitation, depend on municipal activity in urban planning" (Water executive). As the quote illustrates, the water utility has operated in both an internal and municipal strategic vacuum. The vacuum is now filled partly by the regional water supply project, which has triggered political attention and spurred a debate on the fate of Laxå's urban water infrastructure. The interviews establish that this project has not yet led to any urban water strategy, but the county-level action has at least gained political recognition in the municipality as presented by the urban water executive:

“The County Administrative Board coordinates the work [with Vätternvatten] and leading local politicians participate in the steering group and the county director chairs. In Laxå, this work is followed closely, but nothing is decided.”

Related to framing the desired state of urban water, the lack of new development seems to be a condition that compromises strategy-making. However, as shown in Norrköping, a fast pace of building does not automatically facilitate joint strategy-making. Planning routines, history, and water organization greatly influence these abilities too. As explained by the executive of the water utility, vital municipal strategic documents, such as a water and sanitation plan, are lacking in Laxå due to a lack of foresight about water issues in the municipality. Other vital strategic documents, such as the emergency water plan, are kept internal within the water utility since there is no planning group for water issues on an overarching level in the municipality.

4.2.3. Mobilizing Momentum

The interviews in Laxå revealed one main venture that has been pursued to generate momentum for change: cooperation with an external/national partner with higher strategic ability and recognition. The water utility became a member of the national water and wastewater association “Svenskt Vatten” and thereby made use of its annual mapping of the status of water and wastewater management in Swedish municipalities. This mapping indicated a low renewal rate and a lack of strategic plans at both the municipal and water utility levels. This mapping was used by the executive of the water utility to argue for more strategy and investment to avoid a “systemic collapse”.

As also highlighted in the mapping, interviewees had observed a lack of a good organizational model for the municipal departments and utilities, which was articulated by the municipal director:

“It is bad that utilities lead their own lives. We have not practiced active ownership and both the municipality and its utilities lack strategic competence and planning conditions.”

The lack of active ownership is described by the executive of the water utility as both a blessing and a curse. It is a blessing since it established a relaxed working condition; a curse because the lack of active ownership compromised the ability to perform strategy, which the water utility executive sees as particularly important:

“In Laxå there have been so many other problems, for instance a shrinking population and weak finances, so politicians have not wanted to interfere with activities that are working. Water and sanitation is a long-term issue and therefore an ability to think and act strategically is required.”

The executive argued that active intervention by the water utility is needed for allocating resources to strategic planning, giving priority to urban water issues which otherwise are easily ousted by politically pressing needs. In hindsight, the municipal councilor at the time regretted that urban water was separated from the rest of the municipal activity and argued for a more balanced approach:

“It is way too easy to prioritize some municipal activities like caring and education over others. Governing a municipality is like competing in a decathlon. It is not enough to master some of the sports.”

Judging from the interviews in Laxå, two of the assessed conditions seem, in particular, to affect the municipality’s ability to mobilize momentum and build “enlarged intelligence” for urban water, namely water organization and development path, even if the municipality’s finances to some extent relate to its development path. As stated by the municipal director, the organization of water into a separate municipal utility counteracts joint planning processes within the municipality. He thereby views the benefits of retrieving water issues back into the municipal administration:

“Sometimes I have thought that it would be easier to comprehend [strategic water planning] if the municipal companies were taken back to Laxå Municipality and organized and managed within the same administrative framework. The organizational form of administration has the advantage that the distance is decreasing. In strategic municipal planning and in community building, it is important to be able to gather skills in order to think and act municipally. But because there is no major pressure on building in Laxå, it has been difficult to raise the issue.”

4.3. Skellefteå

Skellefteå is a municipality with high expectations of and ambition for population growth and very solid municipal finances, primarily due to ownership of a local energy utility. Water and sanitation is managed by a municipal department. The Skellefteå case depicts a situation with high demands for strategy-making to enable sustainable water management in a growing city with high ambitions to grow even faster. In terms of sustainability aspects in urban water management, Skellefteå did experience an outbreak of *Cryptosporidium*, as presented below, that indicated a somewhat vulnerable drinking water supply, and has, as many other Swedish municipalities, an old sewage and stormwater system that is not yet dimensioned to handle cloudbursts. Several sensitive water bodies surround the city.

4.3.1. Filtering

All interviewees highlighted the 2011 outbreak of *Cryptosporidium*, spread via the municipal drinking water system, as a key event contributing to the emergence of urban water as a strategic issue. As stated, this event has raised the awareness of the need to re-invest in the “old” infrastructure and make new sustainable water management an explicit part of the planning for an expected growing population. As the water and sanitation executive accounts:

“In 2011 there were problems with *Cryptosporidium* in Skellefteå and it was our largest waterworks that became inflicted. This implied that over 40,000 customers were affected. The problem served as an alarm clock for Skellefteå. Since then, Skellefteå has been working hard with the capital assets [water infrastructure].”

The awareness of properly maintaining the water infrastructure has, since the outbreak, also been growing politically throughout the 2010s, as this quote from the urban planning executive illustrates:

“Local politics in Skellefteå is clearly beginning to realize the importance of maintaining what we have [water] infrastructure should not be taken for granted; it requires maintenance. It has become a pride to maintain what we have.”

As in the other two cases, maintenance of the water infrastructure appears to have been discussed more politically a result of the key event. Oppositely, the event in Skellefteå has also shed light on the need for a new overarching planning structure to secure that critical issues, such as urban water, are brought in earlier in all planning processes. As stated by the head of the Technical Administration, since a few years back all municipal investments and developments have been initially discussed with representatives from all departments—including water—to ensure that plans fulfill the needs of the future. The outbreak of *Cryptosporidium* did arguably play a big role in this reorganization and did also lead to significant investment in a new waterworks (described in Section 4.3.3). According to the water and sewerage director, Skellefteå had, however, started to change direction from a “managing to a community-building municipality” even before the *Cryptosporidium* outbreak, which seems to have eased this transition. According to the water and sewerage director, the changed direction of planning includes planning for preventive maintenance of the water infrastructure rather than acting reactively, which would have required more collaboration among municipal departments and the employment of new staff with a strategic orientation:

“Today, we are working extensively with preventive maintenance. Previously, I would like to say that we were almost exclusively working with emergency maintenance. Working with preventive maintenance is to handle the facilities in accordance with good financial management. But it clearly requires more staff who can identify what needs to be done and then ensure that it is translated. Switching from being a managing to a building society has been a process of dialogue that has been necessary for us in Skellefteå, not least because of the *Cryptosporidium* event in 2011”.

The key event and the general reorientation of planning in Skellefteå have also laid the groundwork for the development of a new funding model governed by local politicians. This means that the whole budget for new land development is distributed to the departments as required. The water and sewerage director noted that the necessary additional cost that could facilitate urban water planning needs does not need to be covered by the annual budget of the water department. This is seen to have facilitated collaborative strategy-making.

Of the analyzed conditions, thus, the stable finances in Skellefteå, which is generated foremost by the income provided by the municipal power utility, as well as the water organization seem to have enabled strategy-making for urban water.

4.3.2. Framing

As interviewees in Skellefteå note, urban water is now seen as integral for urban development, where a vision to “adapt to the future” should guide practical planning. By using this framing both in urban planning and municipal financial investments, urban water has been given a central role in urban planning, which is also visible in strategic documents, such as the 2017 comprehensive plan for the city center, which states that:

“Strategic environmental considerations are demanded” including “adaptation of the existing building environment regarding ecosystem services and future climate change” and “continuous development of multifunctional green areas with local water treatment”.

Having the vision of being a guiding star is further viewed to have enabled the creation of principles for urban water planning, including how flood management, infiltration, and surface water run-off should be approached, and generating several test-beds for green-blue solutions. As argued by the head of the technical department, to encourage politicians to invest in alternative stormwater solutions, such small-scale tests are of utmost importance:

“In Skellefteå, politicians are with us on this since a few years back. An important means of getting the politics onboard in building a society that takes future demands into account is to try it on a smaller scale. If we are successful, we can move on and scale up. For politics, it becomes easier to understand and investments become less risky.”

Organizationally, urban water has long since been a part of the technical department governed politically by the Municipal Technical Committee. The urban water executive particularly found the ability to foresee the social structure of the municipality and that each technical branch, urban water being one, was put in a clear urban development context as favorable for strategy-making [32]. This “organizational stability” has resulted in the elaboration of routines for prioritization among investments and in “a tradition to produce strategy” (Urban water executive). The development of the technical committee’s stormwater strategy was further perceived as a formalization of the common view on the significance of stormwater for urban development, as expressed by the urban water executive:

“The stormwater strategy is for me a symbol of action for the municipality and that the specific technical areas have a talent for collaborating to develop a long-term strategic document”.

Even if this common view is described as well-incorporated in the stormwater strategy, its organization in the technical department combined with a period intensified urban planning has arguably led to congestion, which has stalled action in a similar, but seemingly less problematic, way to Norrköping. Also, in Skellefteå, the intensive urban planning has led to key staff being overloaded. Both the planning and urban water executives refer to the tough task of prioritizing several pressing investments as “congestion control”. They both fear that, under these circumstances, there is a risk that the urban water issue will be given inadequate consideration. However, the fact that investments in urban water, e.g., maintaining the pipes, building alternative management, and establishing a new waterworks, have still been realized indicates the political significance and, consequently, the high priority of urban water issues.

Of the analyzed conditions, the found high strategy-making ability in Skellefteå appears to be influenced foremost by the water organization as an integrated part of the municipal organization and the urban planning department. This seems to have enabled a quick transition from a focus on water maintenance to forward-looking water planning when the municipality shifted focus in their planning to respond to the vision of adapting to the future.

4.3.3. Mobilizing Momentum

The above-presented strategic significance of urban water in planning in Skellefteå has led to a mobilization of resources, which has manifested in extensive investments being made. Consequently, the number of staffs at the water department doubled in a short time to meet the expected dual tasks of maintaining existing capital assets and planning several new large investments. Specifically, a range of strategists and project managers were hired. Here, the strong municipal finances can partly explain why staff relatively easily could be hired. Also, by controlling a high proportion of the operative staff, equipment, and capital assets within the water organization, the municipality has a very direct ability to control planning, maintenance, and construction. The new staff, together with the common vision, seem to have facilitated strategic planning [12,34]. As argued by the head of the Technical Administration, the water organization in Skellefteå has highly influenced the ability of the municipality to strategically approach urban water in this new planning landscape:

“I want to state that it is difficult for a municipality in a development phase to have an organizational structure that includes a number of municipal utilities. The municipal utilities naturally focus on their own task and not on the municipality as a whole, which is not preferable when a municipality builds society. It gets too narrow. In urban development, narrow does not work because the reality is too complex. Development requires an ability to see the whole and the ability of different departments to understand their part in the whole.”

Another sign of the high ability to deliver and put strategy into practice is the establishment of the new waterworks. The plan for the new waterworks was essentially finished in 2013. At a very late stage, an external consultant questioned whether the new waterworks would be capable of meeting the challenges caused by climate change, particularly in terms of deteriorating water quality in the water supply source. This immediately caused an attitude of self-reflection. The urban planning executive described this as “starting afresh” and, after 1 year, a new plan for the waterworks, with the potential to cope with future potential environmental threats, was developed. The size of the investment in the new waterworks doubled and was budgeted to just over SEK 600 million.

Judging from the above, the water organization in Skellefteå in combination with a slow but steady development path were the two conditions that have enabled strategy-making for urban water. This seems to have facilitated a view of urban water as not only important to allow for new development areas but as an asset in developing an attractive and robust future city. The strong municipal finances are viewed as important for large-scale investment in the new waterworks but cannot explain the advancements in the planning structure.

4.4. Patterns in Strategy-Making Ability

Building on the questions posed in Table 1, some clear contrasts were found regarding the strategy-making ability for urban water in the case municipalities.

Related to filtering through key events, all three municipalities had experienced internal or external events that theoretically could have triggered strategy-making. The analyzed events, however, panned out differently depending on the role attributed to water in urban planning and development. In all three municipalities, the events did spur political debates. However, in Norrköping and Laxå, urban water is still mainly discussed as a matter of robust technical infrastructure and not as a matter of city attractiveness and urban development. Thus, as opposed to the situation in Skellefteå, the events have not triggered a reorientation in established planning routines. Consequentially, risks are managed ad hoc and late in urban planning processes.

Related to framing, creating a shared vision for urban water in city development appears to have been of key importance to induce further strategy-making. As in Skellefteå and partly in Norrköping, such visions seem to have worked as a common reference point that concretizes what urban water implies for planning and unites actors across organizational divisions. In Norrköping, however, the climate adaptation goal developed applies to the practical rather than the strategic level and does not induce systemic change, thus creating conflicts among water utility staff and urban planners when operationalized. In contrast, no vision for urban water has been developed in Laxå, which seems to be a result of no history of strategy-making and political resistance to acknowledging a strategy for shrinkage.

Related to mobilizing momentum, organizational, economic, and competence factors appear to be important for both the ability to strategically approach urban water and in transferring visions into concrete plans and measures. Investments in water infrastructure that do not directly affect water services for its customers are not allowed by the Water Services Act. In Norrköping and Laxå, incomes from water tariffs, thus, are perceived as earmarked for maintenance and not to, for instance, fund measures to increase long-term resilience. In Skellefteå, investments made are financed according to a broader scheme, making co-financing of indirect benefits less problematic. Further, despite new staff responsible for cooperation being employed in Norrköping and to some extent in Laxå, which has stimulated collaboration on technical matters, the gap between strategic planning and water management remains intact. Organizational stability was also found to shape strategy-making ability. Changing mandates and tasks have created a new and uncertain situation, which is likely to have impeded long-term planning. The small organizational distance and organizational stability over time in Skellefteå seem to provide a stronger connection between water managers and urban planners.

5. Discussion

This section discusses the influence of municipal size, finances, development path, and water organization on the strategy-making ability for urban water planning. The analyzed conditions are discussed one at a time below in the order that they were found to influence strategy-making abilities in the three cases. Since this study builds on three cases to assess four institutional and socio-economic conditions, it was not possible to assert the exact influence of each condition independently, which can be seen as limitation. Rather, the results depict how each condition interconnects with the other conditions to influence municipal strategy-making abilities.

5.1. Water Organization

This study suggests that the type of water organization—municipal department or a delimited water utility—has significantly influenced the strategy-making ability for urban water. Supporting previous findings by Pahl-Wostl, a reflexive water governance organization, effectively coordinating across vertical and horizontal boundaries appears to be key for forward-looking strategy development [24]. This description fits well with the situation found in Skellefteå, where the Technical

Administration, mandated with all aspects of strategic planning, including urban water, is actively reshaping the municipality and placing sustainable urban water management at the heart of the strategy to “adapt to the future”. Framing water as a prerequisite for development, rather than as providing a service to customers, has facilitated the consideration of water issues early in both comprehensive and detailed development planning. The short organizational distance between the departments of the Technical Administration, and that all planning is governed by the same municipal political committee, can explain why this has been possible to realize.

In the two municipalities with delimited municipal water utilities, Laxå and Norrköping, strategy-making is navigated through a considerably narrower lens upheld by the strict owner’s directive governing the utilities. In Norrköping, this directive specifies that the water utility shall “maintain and develop the public water and sewage infrastructure”, “actively work to climate-adapt the existing water infrastructure to comply with current industry practice and the municipality’s guidelines for stormwater management”, and “collaborate and coordinate activities with the municipality’s other activities to achieve positive synergies” [41]. Though this could well open up for cross-sectoral collaboration, the organizational distance between the utility and the Technical Administration with its political committee remains intact. A more active involvement of water planners seems pushed for from the bottom up rather than as a prerequisite for planning, e.g., [10,12]. As in Norrköping, the water utility in Laxå has been given the task of maintaining their water services rather than to take an active part in urban planning. This organizational structure has implied that few of the water utility staff work with strategic issues, similar to Norrköping, which further increases the distance between the municipal departments and utilities [22].

Compared with studies analyzing the ability of water utilities to carry out a sustainability transition, e.g., [42], this study also suggests that the water utilities are often focused on the cost efficiency of water services, generating incremental changes for sustainability. A reason might be that the analyzed water utilities here are small compared to similar utilities in big cities, such as in Stockholm, where the water utility has a much bigger market and thus more need and resources for its own investments.

5.2. Development Path

In all three analyzed municipalities, there are also linkages between their development path and their strategy-making ability for urban water. However, these linkages do not appear to be straightforward as for the water organization condition. In both Norrköping and Skellefteå, who currently are experiencing a steep expansion pace, the high pressure of producing new plans has created an overload among staff with water planning competence, which is stalling strategic considerations. Nevertheless, by pronouncing urban water as a prerequisite for, and part of, development in Skellefteå, new strategic staff with a background in urban water have fairly easily been recruited. Thus, aligning with findings by Restemeyer et al., this study suggests that strategic urban water planning is facilitated by being “integrated into a bigger urban agenda” [43] (p. 45). In addition, the new financial model for land development in Skellefteå—pooling funds for strategic investments in, among other things, urban water planning—has allowed for the assessment of alternative solutions for, e.g., stormwater management. In the other cases, such planning costs are viewed as too high to be covered by the water fee, and are thereby perceived to constrain planning. In Norrköping, municipal investment in urban water is rather seen as competing with massive infrastructural change, i.e., the high-speed railway, and a huge need to increase capacity in elderly care and primary education, rather than as an integrated part of, or even a prerequisite for, such investments. Interestingly though, the funds provided by the water fee were found to well-cover the investments in water infrastructure in Skellefteå, even to a higher extent than in Norrköping. This suggests that planning capacity rather than investment cost is limiting the implementation of alternative water management in Norrköping. Being more centralized and coordinated in planning in Skellefteå and allowing water-planning

costs to be part of new land development have consequentially facilitated more forward-looking water planning.

In Laxå, the funds available for investment overall are very limited, which arguably is due to the trend of a shrinking population. Here, the prospects for political recognition of a strategy for shrinkage are poor, even though it potentially could serve as an avenue for strategy-making [38]. Syssner found that shrinking Swedish municipalities still are neglecting it due to a cemented growth norm [39]. There are thus few shrinking-strategies to learn from. This means that a municipality with very limited strategic habits and staff is likely to have to rely on itself.

5.3. Finances

As underlined by the results in this study, the availability or lack of strong finances appear to have a small influence on the observed differences in strategy-making ability for urban water in the analyzed municipalities. For example, Skellefteå seems to have benefitted from its strong finances when planning for and investing in the new waterworks, while the weak finances in Laxå seem to have restricted similar investments. However, the investments made in water infrastructure and planning largely have been covered by the new land development funds in both Norrköping and Skellefteå, requiring no or very limited funds from the municipal budget. The interviews rather revealed more examples when available funds have been set aside but not utilized rather than examples of when a lack of funds has constrained action. For example, in Norrköping not all of the annual funds set aside for adapting the water infrastructure have been exploited by the water utility, and in Skellefteå the water fees currently even generate a surplus. This study thus supports findings by Lehmann et al. arguing that it is rather the broader socio-economic environment—here referred to as the development path—and “incentives for action” than municipal finances per se that determine how much resources and planning effort is devoted to sustainable urban water management [44] (p. 89).

5.4. Size

The size of cities has in previous studies been found to influence their overall capacity and their actions for sustainability [45], where bigger cities are often assumed to be more equipped to handle, for instance, climate change impacts. In this study, the size of the analyzed municipalities does not seem to have influenced the strategy-making ability for urban water as much as the other conditions. Norrköping’s population is, for example, 50% bigger than Skellefteå’s, and the tax revenues are higher, but it still appears less equipped to strategically plan urban water issues. When touched upon by interviewees, size does nonetheless seem to influence their overall capacity to some extent, where Laxå is struggling with a perceived low capacity among the staff to approach urban water strategically in planning. Likewise, in Norrköping, a lack of staff with competence in both water management and urban planning is seen to constrain the strategy-making ability. Skellefteå was, according to the interviewees, seen to be the “right” size to have the competence and turnover required, while also being small enough to overview competences and work with collaborative planning. Drawing from this, then, not much can be said about how size influences the municipal strategy-making ability.

5.5. Comparison of the Tested Conditions

The above analysis provides a qualitative indication of the influence of the tested conditions on the strategy-making ability for urban water in the three case municipalities, which is summarized in Table 4 below.

Table 4. Influence of the tested institutional and socio-economic conditions on the strategy-making ability for urban water.

Condition	Norrköping	Laxå	Skellefteå
Water organization	Creates conflict. Obstructs strategy-making for urban water	Maintains organizational distance and a service provision focus	Facilitates collaborative planning
Development path	Creates work overload and de-prioritization of water. Enables new positions	Creates a sense of hopelessness and political tension	Creates work overload. Facilitates long-term resilience thinking
Finances	No clear influence	Low organizational self-esteem	Facilitates capital investment
Size	Obstructs strategic capacity development at the water utility	Obstructs strategic capacity development. Enables transparency in planning	Enables transparency in planning

6. Conclusions

This study set out to advance the understanding of how institutional and socio-economic conditions influence municipal strategy-making ability for urban water by analyzing three Swedish municipalities with different, yet overlapping, conditions in terms of size, finances, development path, and water organization: Norrköping, Laxå, and Skellefteå. Approaches to strategy-making were examined in three planning dimensions deemed important and where strategy-making is most likely to be found: filtering through key events, framing the desired state, and mobilizing momentum by “enlarged intelligence”.

In line with previous studies, we see that local water challenges aggravated by climate change have increased the need for more strategic water planning in all three case municipalities. On a general level, the study finds that even if such key events have indeed filtered urban water issues into the political agenda, these have not induced further systemic change, except for in the Skellefteå case where the role of water management in strategic planning previously had been specified, i.e., aligning sectoral planning processes.

Consequently, the study suggests that organizational aspects influence the strategy-making ability by prescribing when in planning water issues should be considered in a range of urban planning and development processes, both to avoid flooding and water pollution and to maximize the co-benefits of alternative solutions. Judging from the cases, size, finances, and development path do matter for strategy-making ability, but they appear less important than the organizational setup as presented in Table 4.

The study also found that the strategy-making ability differed significantly between the three studied municipalities and that even if organizational aspects appear to be key, they shape the strategy-making ability differently depending on the other three conditions studied, since the conditions were found to be greatly interdependent. Framing the desired state appears central among the three dimensions of strategy-making for establishing a reference point for effectively mobilizing momentum for the implementation of plans that take water issues into consideration. This study found it decisive to align the desired state of urban water planning with the objectives of strategic urban development in the municipality. In all cases, this process would entail clarifying how urban water could function as a resource in developing a resilient and attractive municipality. Consequently, organizational aspects in combination with the development path influence the strategy-making ability. When aligned, it helps prescribe what system perspective to apply and how to integrate various goals and visions. In two of the cases, this would further require rethinking and reframing urban water from primarily being viewed as a service provided to customers where cost-effectiveness often is used as a central principle for management and development. Though this seems self-evident in the current debate, it has rarely crystallized into concrete action. As this study shows, framing the desired state also

implies different things for municipalities operating under different sets of conditions, which might be a reason as to why this yet has not happened in two of the cases.

What, then, do these findings imply for prospects for improving the strategy-making ability for urban water planning in municipalities with different conditions?

To improve the strategy-making ability in municipalities where water is organized into a delimited water utility, as in Norrköping and Laxå, this study suggests that consideration should be given to reframing and organizational aspects. In both of these cases, the utilities have established a strong norm of cost-efficient provision of water services covered by the water fee. Consequently, it appears unlikely that a reframing of water services in terms of city attractiveness would be created from the bottom up. Inducing change from outside the utility, however, requires steering and that the municipal politicians in the local council and the board of the water utility are aware of and realize the urgency of this issue as sufficiently large to justify political attention. It also takes two to tango when aligning a vision. This means that the urban planning department also needs directions for considering urban water in planning and that even if it would be the leading partner, it must consider the follower's perspective.

To improve the strategy-making ability in municipalities with a slow or downward-sloping development path, as in Laxå, going beyond the current impasse of denial [39] and, instead, as Syssner suggests, recognizing shrinking [38] appears to be key. Martinez-Fernandez et al. propose three recommendations for strategies in shrinking municipalities: community resilience, urban regeneration, and social dynamics of shrinkage [46]. Social dynamics of shrinkage include measures for "improving local conditions of living (housing, public space), which could serve the needs of the existing population" [46] (p. 40). This would suggest a strategy of, while downscaling the urban water infrastructure, reaping the positive side-effects of alternative solutions that can create co-benefits, such as recreational values, for its population. Gaining political acceptance for such a strategy is nevertheless challenging. Since there are few examples to learn from, it is unlikely that these strategies will materialize without some form of external collaboration. This could be in the form of development funds or guidance that could be provided by the water sector association, by such national authorities as the National Board of Housing, or by E.U. development funds. All of these, however, would require recognition, competence, and resources for writing project proposals.

To improve the strategy-making ability in mid-sized municipalities with a sudden and accelerating population increase, as in Norrköping and Skellefteå, it appears key to thoroughly have scrutinized the demands for urban water management within each sub-basin. When tested in, e.g., Stockholm and Linköping, such investigations appear to have facilitated planning by—before initiating comprehensive and detailed development plans—clarifying where to localize various activities from an urban water perspective and the demands for water management in each detailed development plan. Such investigations could also serve as a platform for cooperation between departments and utilities before other priorities need to be addressed and when economic issues usually weigh the heaviest. If shared visions on water management are developed in this phase of planning, it might also be easier to convey that vision to land and property developers who, in the case of Norrköping, otherwise might bargain over their responsibility in each detailed development plan.

To take the findings in this study one step further, research comparing all different governance forms for water in Sweden, and that examines how a sub-basin investigation of urban water management demands could be structured and used in municipal planning, would be useful.

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