

# Understanding Long-Term Policy Failures in Shrinking Municipalities: Examples from Water Management System in Sweden

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## Abstract

Depopulation is a major drawback for local government when it comes to managing technical infrastructure. In water and wastewater systems management, overcapacity is not only a problem in economic terms. In addition, it brings with it serious technical problems and can also cause health problems for residents. In the context of Sweden, previous studies have recognised that shrinking municipalities fail to plan for or to maintain their fixed assets adequately, despite clear goals and guidelines stating that each generation should pay its legitimate share of what municipal operations cost. Despite these clear policy goals, many shrinking municipalities in Sweden have not prioritised the maintenance of fixed assets in water and wastewater. We know that these problems exist, but we know little about what lies behind them. This paper seeks to address this knowledge gap. By drawing upon theories of failure in public policy and administration and a case study of the municipality of *Laxå*, this paper seeks to arrive at a deeper understanding of policy failures in water systems management in shrinking municipalities in Sweden. The paper discusses three interrelated research questions: (a) What kind of failure are we dealing with here; (b) What organizational behaviours preceded the policy failure itself; and (c) What are the conditions that precipitated the observed failure(s)?

## Introduction

A growing body of literature has recognised the problem of the overcapacity of technical infrastructure systems in cities and regions undergoing population decline (Moss, 2008; Weichman & Pallagst, 2012; Sousa & Pinho, 2015; Walther, 2016; Faust, Mannering & Abraham, 2016). Clearly, being a shrinking city is a major drawback when it comes to managing technical infrastructure. To begin with, it is fundamentally difficult to adapt technical infrastructure in “direct correlation with the population” (Faust, Mannering & Abraham, 2016: 618). Therefore, shrinking cities tend to exhibit an extensive and costly overcapacity when it comes to most forms of technical infrastructure. Moreover, fixed assets have a rather long life-span (normally 20–50 years according to Walther, 2016: 155). In order not to shorten their technical service life, the assets require ongoing reinvestment and maintenance. However, shrinking cities are characterised by having fewer tax payers, and thus receive lower revenues from fees for technical infrastructure (Fjertorp, 2013; Hackworth, 2015). They have also been shown to have limited options for raising long-term capital for reinvestment (Walther 2016: 155).

When it comes to the management of water and wastewater systems, overcapacity is not only a problem in economic terms. Moss (2008: 436) states that chronic overcapacity brings with it serious technical problems. A long-term

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decline in the consumption of water has been reported to cause “major problems for the technical functioning and feasibility of infrastructure systems” (Moss, 2008: 437). Walther (2016: 156), in much the same vein, stresses that reduced water flows, due to low utilisation levels, may increase the risks of bacterial content and contamination.

The main challenge identified by many researchers is that, in a situation of long-term depopulation, fixed assets must either be adapted to the new demography, or residents will need to pay for assets that are over-dimensioned, unused and sometimes in poor condition. Since paying for overcapacity is less desirable, researchers, politicians and planners have taken an increasing interest in how the question of adaptation can be addressed (Hackworth, 2015; Syssner, 2014, 2018). Several attempts have been made to identify ‘best practice’, or at least examples of how technical systems can be managed in times of demographic decline.

Faust et al. (2015) explain that water and wastewater systems have two unique features compared to, for example, streets or real estate. *First*, water and wastewater pipes are often located underground and thus are not visible to residents. This may hamper the engagement of residents in the quality of this infrastructure. *Second*, nevertheless, the quality of water and wastewater systems has a significant impact on human health. This suggests that in fact residents ought to be genuinely concerned about the quality of these systems. According to Faust et al. (2015), more than 70% of the residents of shrinking cities in the USA are willing to pay increased fees for improved water and wastewater services (Faust et al., 2015). Increased fees or taxes can thus be a way to improve the financial ability of local government to manage an oversized infrastructure. In a discussion of technical solutions, Walther (2016: 156) proposes more frequent servicing and pipe washing as one example. Hackworth (2015) mentions *rightsizing* as a planning strategy in shrinking cities in the USA. Rightsizing is described as the attempt to concentrate residents and services into clusters of mixed incomes and uses, rather than just accepting the diffuse distribution that post-industrial shrinking cities in North America tend to exhibit (Hackworth, 2015: 766).

Although many of us are actively looking for good examples, it is known to be hard for shrinking cities and municipalities to adapt technical infrastructure to a new demographic situation. In the context of Sweden, previous studies have recognised that shrinking municipalities fail to plan for or to maintain their fixed assets in an adequate way, despite having strong incentives to do so (Jonsson & Syssner, 2016; Jonsson, 2017). According to the Swedish Environmental Protection Agency (*Naturvårdsverket*, 2016), wastewater treatment plants and pipeline networks in Sweden were mainly built in the late 1960s and early 1970s. Since then, the level of reinvestment in these systems has generally been low, and as a consequence the status of water and wastewater systems has deteriorated, especially in small and depopulating municipalities (Jonsson & Syssner 2016, 2018).

Altogether, we know that shrinking municipalities in Sweden have failed to keep their water and wastewater systems in good order. To our knowledge, however, no study has examined this failure in detail. We know that the

problems exist, but little about what is behind them. This paper seeks to address this knowledge gap.

### The aim of our paper

By drawing upon theories of *failure* in public policy and administration, this paper seeks to develop a deeper understanding of failures in water systems management in shrinking municipalities in Sweden. More specifically, we seek to use an in-depth case study to map and further examine the behaviours and conditions that lead the municipality to persistently fail to advance or to implement the formal policies in the field of water and wastewater management. Three interrelated research questions will be addressed:

- ✓ What kind of failure are we dealing with here?
- ✓ What organizational behaviours preceded the policy failure itself?
- ✓ What are the conditions that precipitated the observed failure(s)?

### Shrinking municipalities in Sweden

In recent years, public and scholarly interest in the policy implications of demographic decline has increased in Sweden. Most of these studies have concerned local levels of government. Thus, although Sweden is a unitary state, local government in Sweden is, as stated by Erlingsson & Ödalen (2013: 29), often understood to enjoy “a strong constitutional status, a rather high degree of policy-making autonomy and financial independence”. The supply and management of water and wastewater systems is a task for the municipalities and for local levels of government. According to the Public Water Supply and Wastewater Systems Act (SFS 2006:412), the municipality is obliged to provide water services if it is considered necessary for the protection of human health or the environment. In Sweden, the municipalities’ water and wastewater activities are funded by rates. Sweden’s municipal water and wastewater operations thus constitute a self-regulated, rate-financed monopoly within a specific geographical area (Haraldsson, 2015).

Graham and Thrift (2007) describe how large costs often arise when fixed assets cease to function due to neglected maintenance. In previous studies, we have seen that local politicians and civil servants express deep concerns about the status of the fixed assets in their municipalities and about the low levels of reinvestment in these assets over the past few decades. Many of the municipalities included in our previous studies do have explicit policy targets, suggesting that each generation should pay for its legitimate part of what municipal operations cost (Jonsson & Syssner, 2016, 2018). However, the actual decisions made in the municipalities have consistently taken another route.

A number of state and local government institutions set forth that municipal assets should be maintained in accordance with good financial management. One such institution is Sweden’s Local Government Act (SFS 1991:900, Chapter 8 Section 1), which sets forth that every Swedish municipality is obliged to present an annual budget in which revenues exceed the costs. In 2005, this Act was revised, and since then municipalities in Sweden have been obliged to formulate

targets with a focus on good financial management (Swedish Association of Local Authorities and Regions, 2005; see Brorström et al., 2009). Another such institution is the municipal equalisation system in Sweden. This system was designed in 1966 and has been revised at various points in time since then but has retained its original aim: to equalise the economic conditions of all municipalities in Sweden. The municipal equalisation system compensates municipalities with a low tax base, as well as those with a disadvantageous demography, which means that municipalities are not left alone to deal with their financial challenges. Of great importance in this context, however, is that the equalisation system does not compensate municipalities with regard to poorly maintained fixed assets (Swedish Agency for Public Management, 2014). In other words, municipalities cannot expect to receive state support to cover their costs incurred due to non-maintenance. Despite the circumstances outlined to above, municipalities still fail to plan for or to adequately maintain their water and wastewater systems.

### Methods and case study

As part of our aim to create a deeper understanding of the failure described above, we have conducted an in-depth case study in one Swedish municipality: Laxå. We believe that our case study approach has helped us to gain an improved understanding of a complex organisational phenomenon (Scapens, 2006; Alvesson & Sköldberg, 2017), i.e. water systems management in shrinking municipalities in Sweden. By focusing on the complexities of a single case, we can contribute to a deeper understanding of other, similar cases (see Merriam, 1994; Kvale & Brinkman, 2009). The Swedish Sustainability Index (2015, 2016, 2017) shows that with long-term inadequate maintenance of fixed assets within water and wastewater is common among Swedish municipalities. The complex organizational phenomenon we are studying is therefore not isolated to our chosen municipality.

Laxå municipality was part of an earlier and broader study in which we investigated asset management in several shrinking municipalities in Sweden. When we presented our results to the municipalities included in that study, they verified our conclusions. In addition, the municipal executive board in Laxå expressed the need for a deeper understanding of their problems. They agreed that they had a management problem but wanted to know more about how and why the problem had arisen. Shortly thereafter, we decided to pursue an in-depth case study in Laxå, focusing explicitly on failures in public asset management. The Laxå management stated that they saw our in-depth study of policy failures as an opportunity for learning and development. To us, this was very important: we gained access to the field and the opportunity to repeatedly ask key people in the organisation sensitive questions that demanded a complex response.

At the time of our study, Laxå had had a declining population base for many years. By the end of 2015, the number of inhabitants in Laxå was about 5,600, which was about 3,000 fewer than in the early 1970s. In financial terms, the net income for both the municipality and the water and wastewater company was positive for 2015. However, the municipality has a long history of negative financial results. In Laxå, water and wastewater systems are managed by a

municipal company: Laxå Vatten AB. According to the municipality's ownership policy and guidelines, this company should:

produce and distribute drinking water, dispose of and clean wastewater [...] within the municipality of Laxå. This should be done in an environmentally friendly and economical way. (Annual Report, 2015: 35)

Clearly, the ownership policy and guidelines states that the water and wastewater company must be operated in manner that considers environmental as well as economic interests. From earlier field studies we knew, however, that the maintenance of waterworks, purification plants and pipelines in Laxå had been neglected for many years. During the mid-2010s, Laxå Vatten AB and the municipal executive board began to address problems with water leaks as well as oversized pipelines, waterworks and treatment plants. Laxå Vatten AB also began to pay attention to more stringent environmental requirements and a general debate in Sweden about the importance of water and wastewater undertakings for welfare. In 2015, the Annual Report stated that the maintenance and renewal of water and wastewater plants should be a priority issue after many years of neglect:

In 2015, approximately SEK 1 million was spent on renewal, equivalent to a renewal rate of approximately 450 years. The goal is to reach a renewal rate of 200 years. (2015: 35)

Against the background of these observations, we can assume that Laxå municipality has failed for years to maintain fixed water and wastewater assets in accordance with good financial management, despite having expressed an ambition to do so. To understand this failure in more detail, we conducted seven interviews with key informants in the municipality organisation. These informants were: (a) the Chief Executive Officer of Laxå Vatten AB, (b) the Head of Water and Wastewater Operations, (c) the Municipal Chief Executive, (d) the Chief Financial Officer of Laxå municipality, (e) a former leading politician, (f) the Chair of the municipal executive board, and (g) the secretary to the municipal executive board at the time of the interview. The interviews were supplemented with a documentary study of municipal budgets, annual reports, environmental assessments, environmental reports and the like. Three interrelated research questions guided our analysis of the data: What kind of failure are we dealing with here? What organizational behaviours preceded the policy failure itself? and; What are the conditions that precipitated the observed failure?

## Theoretical framework: A world of failures

In recent years, scholarly interest in success and failure in the public sector has increased. Studies of failures in public policy and administration have addressed a variety of policy areas: social and economic policy, poll tax, child support agencies, housing reforms, nuclear power regulation and health reforms, at several tiers of government (see, for example, le Grand, 1991; Dollery, Crase & Byrnes, 2006; McConnell, 2015; May, 2015).

Studies of failures in public policy and administration have been conducted within several disciplines. McConnell (2010: 346) refers to the literature on policy evaluation as a central contribution “to our thinking about success and failure”. Studies in comparative politics often implicitly deal with aspects of failure and success, although not in a conceptually explicit manner (Peters, 2015). In this tradition, “institutional and regime factors” (Peters, 2015: 265) are often understood as the main explanations as to why policies fail or succeed. Failure, as pointed out by Dunlop (2016: 19), is then primarily understood as the result of specific societal or political institutions and contexts. Literature drawing on the perspective of policy design or policy analysis focuses instead on “the design of the policies themselves” (Peters, 2015: 265), and tends to relate policy failures to “poor design of policy tools” (Dunlop, 2016: 20), rather than to the broader institutional context. Implementation studies have also contributed to the growing number of studies of failures in public policy and administration by contributing what Dunlop (2016: 19) calls policy stages explanations. In this literature, failure may be described in terms of “either non-implementation [...] or unsuccessful implementation” (McConnell, 2015: 224). Studies of policy failures drawing on a policy stages perspective have also suggested that failures can have their roots in various stages of the policy process, i.e. in the stages of agenda setting, policy formulation, decision-making, policy implementation, or policy evaluation (Howlett, Ramesh & Wu, 2015: 213).

### The epistemology of failure

A great deal of the literature dealing explicitly with failures starts out by discussing the difficulties of defining the term (McConnell, 2015; Dunlop, 2016; Kay, 2016). Several scholars point out that there is a fundamental difference between rationalist and post-positivist understandings of how to determine what a failure is. On this topic, McConnell (2015: 221) observes that some studies on public policy failures tend to treat failure rather intuitively – as something “self-evident” that does not need to be defined – whereas others treat failure as something that “can be assessed by means of examining the gap between government goals and outcomes”. The “rational scientific tradition”, as McConnell (2015: 227) puts it, begins with the “assumption that failure is an objective fact” (see also McConnell, 2010: 350). Such a perspective is represented, for example, by Keech and Munger (2015), who suggest that clear criteria are needed to evaluate whether governments fail or succeed (they put forward the generalised Pareto distribution as the most promising measurement).

The rationalist strand indeed had a great deal of influence on the early literature on failure in public policy and administration. During the last decade, however, more interpretative, constructionist and post-positivist perspectives on success and failure have been developed. In this tradition, the role of perception, interpretation and meaning has been highlighted, and “failure” is seen not as an objective matter of fact, but as something that is politically and socially constructed through discourses and narratives (McConnell, 2015; McConnell, 2010).

In a rationalist understanding, it is of course crucial to establish the terms under which a failure is in fact a failure. But even in a more constructionist, interpretive understanding of the term, it is beneficial to create a more structured

understanding of how and in what respects a failure is understood as such. According to Howlett (2012), policy failures come in many forms and types and it is therefore important to discuss the policy failure in its context. This understanding can be enhanced through research questions that refer to relational aspects (in relation to what is it a failure?); to degrees of failure; to subjects of failure (for whom is it a failure?); and to aspects of time (when is it a failure?) (McConnell, 2015: 222; Kay, 2016: 87). These aspects are discussed below.

*First*, we need to be aware that failure is a relational concept. A failure, or the perception of failure, arises in relation to something – for example, in relation to intended objects or intended target groups, in relation to costs and benefits, or in relation to time (McConnell, 2015: 227). A failure can also be a failure in substantive terms, i.e. in relation to expected outcomes; or in political terms, i.e. in relation to some general societal expectation or perception of these outcomes (Kay, 2016).

*Second*, failure is always a matter of degree (McConnell, 2015) or extent (Howlett, Ramesh & Wu, 2015: 213). Goals can be completely achieved, partially achieved or completely missed. That is, success and failure are not distinct sets, where an element is either included in a category or not. Rather, statements about failure open the way for discussions about grey areas, spectrums and ambiguities (McConnell, 2010; 2015). In our study, we know that politicians and civil servants express deep concerns about the quality of the technical infrastructure. The lack of maintenance has not yet resulted in poor water quality, flooding or any acute health risks. It has, however, resulted in leaking water and drainage pipes, which is not optimal from either an economic or an environmental perspective.

*Third*, a failure requires someone to classify it as such. This opens the way for questions about for whom a failure is a failure – specific target groups (McConnell, 2015: 229), or those individuals or organisations who have invested resources in a certain measure or effort? It also raises questions regarding what McConnell (2010: 345) has called the “authoritative closure on the issue of a policy’s success or otherwise”. Here, we would suggest that the lack of maintenance has caused a maintenance deficit that future generations will need to address. From their perspective, today’s and yesterday’s substandard maintenance would definitely be regarded as a failure. On the other hand, there are no protests from today’s residents against the municipality’s way of managing the water system. Those who define the situation as a failure are mainly our informants – civil servants and politicians in the municipality organisation – and ourselves.

*Fourth*, failure is a time-dependent concept. That is, depending on *when* you evaluate a measure – in relation to its goals, costs, broader expectations or other considerations – you may draw very different conclusions (McConnell, 2015: 229; Kay, 2016). Moreover, Howlett (2012) and Howlett, Ramesh and Wu (2015: 213) suggest that *duration* is an important analytical dimension when trying to understand failures more thoroughly. By focusing on duration, it becomes evident that some failures, as Howlett, Ramesh and Wu put it, are “gradual and long lasting” whereas others are “short and sharp in nature” (2015: 210). The persistence of a failure can manifest in various forms. According to Howlett, Ramesh and Wu (2015: 210), policy failure persistence “can be

observed in the same type of policy failures being repeated across time periods, policy sectors and countries, despite the availability of many opportunities for policy learning.”

### Conditions for failure

Some studies have been particularly concerned with the factors or circumstances that make failures possible (see Howlett, Ramesh & Wu, 2015: 210). As McConnell puts it (2015: 224), these studies are focused on the “causes of failure, rather than the nature of failure per se”. Some of the earlier studies drew on studies of market failures (le Grand, 1991) for many of their theoretical influences. This literature tends to refer to the public sector as being inherently problematic. The disjunction between revenues and costs in public organisations is one aspect that is referred to as problematic; state monopolies are another (le Grand, 1991). In this literature, the absence of actual or even potential competition in the public sector is believed to promote inefficiency, since it “reduces the incentive to keep costs to a minimum” (le Grand, 1991: 432). Our study indeed concerns a case in which the public sector has a clear monopoly. However, the problem in our case is not – at least not at first sight – that the authority has inefficiently overspent public resources. On the contrary, it has failed to maintain its fixed assets or to invest in them over a long period of time.

Another circumstance used to explain failures is the actors’ scope for action. Few if any public bodies can do everything that they would like to do for their residents. They may be financially constrained – which leads to prioritisations – or they may suffer from an “absence of independence” (Peters, 2015: 269) either in relation to upper tiers of government or in terms of being dependent on the support or involvement of other organisations or stakeholders (Peters, 2015). Being financially constrained does not, however, automatically explain the priorities set. It explains priorities as such, but not why some issues are given budgetary priority over others. We also reject the idea that dependence on the state level would be a reason for mismanagement. Municipalities do carry the full responsibility for water and wastewater management in Sweden; this is rather a strong incentive for them to keep their fixed assets in good condition.

Another condition that is considered to be important for policy failures is interorganisational dependencies. Peters (2015: 267) suggests that governance “is about the capacity of the public sector, with or without allies in the private sector (market or non-market), to steer the economy and society”. In a situation of networked governance, more actors take part in the policy process. And, as Peters further suggests, a highly interactive governance situation brings with it more veto points and more veto players. This in turn may lead to a situation in which governments suffer from an inability to make substantial decisions. In our case, however, the conduct of non-governmental actors is of little significance. Water management is a monopoly of local government and does not involve any private or third sector interests.

Another issue that is referred to in discussions about grounds for failures is the alleged asymmetry of information between politicians and civil servants. In this respect, Dollery, Crase and Byrnes (2006: 343) refer to “councillor capture” as one condition that indicates a greater risk of failure at local levels of government. Managers and civil servants are referred to as being “better



informed than councillors” and as capable of “capturing” elected politicians and thus able to “achieve the policy outcomes they desire” (Dollery, Crase & Byrnes, 2006: 343). At first glance, this may very well be an option in our case. Previous studies have indicated that civil servants hold a strong position in many depopulating municipalities in Sweden (Olausson & Syssner, 2015). However, the professional judgement of managers and civil servants in the field of water management would be that ongoing reinvestment and maintenance is of benefit. But no such decisions were taken by the municipality. Why this is the case is increasingly difficult for us to understand.

Some voices suggest that inefficiency – sometimes implicitly framed as the ultimate public sector failure – would lead to dissatisfaction among residents and to elected representatives being voted out of office (le Grand, 1991). Political opposition is then considered to act as a regulator that contributes to a greater awareness of public resources among elected representatives. Following from this, low electoral participation, low levels of civic involvement and a long-term absence of political opposition are assumed to be factors explaining long-term policy failures (le Grand, 1991; Dollery, Crase & Byrnes, 2006). In some studies, this is addressed as an issue of policy feedback (May, 2015: 279), i.e. as the ability of an institution to engender feedback or target group responses to a specific policy. In our analysis, we will certainly discuss whether lack of civic engagement or political opposition have any significance for long-term policy failures in the water management sector in Laxå.

Another issue of potential significance is that public policy and administration tend to be highly segmented (Peters, 2015: 266). This implies that some sectors in the same governmental organisation may exhibit successful processes and deliver all the output expected, whereas other parts of the organisation perform poorly in terms of both processes and substance (Peters, 2015). This implies, of course, that even if we have identified a case of failure in the municipality under study, not everything in that municipality must be considered to have failed. On the contrary, it may even be that all other policy areas in the municipality deliver amazing results, and that to some extent they do so because these areas are prioritised at the expense of the policy area that we are studying. To develop and support such conclusions, there are two options. The first is to study all policy areas in terms of both process and outcome, and then to draw conclusions about whether these are given more priority than the area that we are studying. The second is to ask our informants about whether they perceive the current failure as resulting from the low priority given to this specific policy area in the municipality. Here, we have chosen the second option.

So far, we have established that the municipal monopoly over the water and wastewater system did not cause the municipality to overspend resources in maintaining the system. We have also deduced that the state government’s nominal involvement in the provision of a water and wastewater system would more likely be a strong incentive for municipalities to take care of the ongoing maintenance more decisively. We have established that water management is a monopoly of local government and that the involvement of private or third sector interests cannot explain the failure under study. Moreover, we have ruled out the possibility that we are studying a case of “councillor capture”, in which well-

informed managers and civil servants push elected politicians to make “bad” decisions.

### Behaviours and conditions for failure

In this study, we do not seek to establish any causal relations between certain organisational traits and an alleged policy or implementation failure. Rather, we seek to increase our understanding of what organizational behaviours have preceded the policy failure under study. In this respect, we link to Woolcock, Lant and Andrews (2010) who, in a study in developing countries, asked *how* countries manage to consistently fail, rather than *why* they do it. In a subsequent study, Pritchett, Woolcock and Andrews (2013) suggest that while there are “many deep, structural and inter-related causes [...] of why countries fail, we are interested in *how* countries fail – that is, in the techniques that allow and facilitate state failure.” As stressed already, we are interested in the organizational behaviours that preceded the policy failure, and in the conditions – poor systems for policy feedback, and a highly segmented municipality – that make those organizational behaviours possible. However, conditions themselves do not cause a failure. Organisations with equivalent conditions may very well present other behaviours and manage their water systems more effectively.

## Results

In our analysis, we have tried to understand the kind of failure that we are dealing with, the organizational behaviours that preceded poorly maintained water and wastewater infrastructure, and the conditions that enabled these failures. According to our analysis, the failure under study is primarily related to inequality between generations. The behaviours that allow this failure include the establishment of municipal public companies and an ongoing lack of active ownership. The behaviours also include intentional and unintentional priorities and the acceptance of policy feedback deficits. The conditions that made the failure possible include poor policy feedback and the attitude that water and wastewater management issues were considered to have been resolved once the company had been formed and the new water supply was in operation (in the early 2000s). Another condition is related to the municipality’s pride in Laxå Vatten AB, in combination with the “impossibility” of raising rates.

### What kind of failure?

- i. Since the beginning of the 2000s, a number of municipal activities in Laxå have been handled by municipal companies. The water and wastewater systems are examples of such activities. The background to the formation of Laxå Vatten AB lay in problems with the municipality’s water supply and a strained economy. By the end of the 1990s, the municipality needed to finance a new water supply. The solution was to create a company that was to be owned 100% by the municipality. The Chair of the municipal executive board claimed that it would be easier to make decisions if the planned investments were handled by municipal companies.

Nevertheless, the water pipes were described as having many cracks, which resulted in extensive leaks. Both the water pipes and the wastewater treatment plant were poorly maintained. Other consequences were that the municipality was poorly equipped to handle intense rain.

Although aware of the problem, the municipality and Laxå Vatten AB failed to manage the water and wastewater systems for a number of years, leading into the 2010s. Key actors in the municipality expressed awareness of the maintenance deficit and its consequences, but put forward the economy as a major explanation for inaction. The Chief Financial Officer for the municipality claimed that the maintenance would need to be doubled – and rates increased by 20% – if Laxå Vatten AB was going to be able to do what was described in the ownership policy and guidelines. However, even though the water and wastewater company have a monopoly, it was “impossible”, according to the CEO, to raise the rates for its water and wastewater operations.

Importantly, however, local residents were pleased with the water and wastewater company despite the poor management of the systems – at least according to the Swedish Sustainability Index (2015, 2016 and 2017). In one of the interviews, the CEO’s explanation for this good rating was that “when the consumer turns on the tap, the water comes.” This brings us to the interpretation that the failure under study here is a failure in terms of injustice between generations. Even though cracked pipes and leaks were reported, the low levels of reinvestment in maintenance did not result in a major crisis in terms of health or the environment. This implies that the residents who have lived in the municipality in the last few decades have benefited from an under-priced service, while tomorrow’s residents will have to pay a premium.

### Behaviours preceding a failure

The organizational behaviours preceding the policy failure under study are: (i) boundary-work, i.e. the creation of autonomous companies and the lack of active ownership; (ii) intentional and unintentional priorities; and (iii) the acceptance of policy feedback deficits.

- i. Boundary-work: autonomous companies and the lack of active ownership

When the water and wastewater company was formed in the early 2000s, a culture quickly arose which meant that the municipal companies were expected to take care of themselves. This picture was confirmed by several respondents. According to the Chief Executive Officer of Laxå Vatten AB, this strategy created problems from a long-term sustainability perspective.

The CEO described how he had managed the company over the years without any active ownership control. After the investment in the new water supply was completed and the company had been formed, water and wastewater operations became a non-issue for the politicians in Laxå. This weak corporate governance was expressed in terms of the fact that, according to the CEO, the board basically only asked if the water and wastewater company was “functioning”. The management of Laxå Vatten AB, on the other hand, was weak except on one point: The rates for water and wastewater could not be

raised. For the municipality's politicians, the water and wastewater issue was seen as having been solved. They had other more pressing issues to prioritise.

In such a situation [strained economy and declining population], the question of renewal of the water and wastewater network and planned maintenance that maintains a level consistent with good financial management was not prioritised by the leading politicians. (CEO of Laxå Vatten AB)

According to the CFO of the municipality, Laxå has not had strong enough control over the municipal companies.

The leading politicians have been satisfied with annual break-even results and they have not been interested in the companies' actual economy. (CFO of the municipality)

The Municipal Chief Executive stated that in Laxå they take pride in the water and wastewater company. It was known that the company's CEO was professional and loyal and that the staff did their best. As the municipality had difficult issues to contend with in other areas, this, combined with the good image of the company, led to management weakness. Local government was basically satisfied with asking "*does it work?*"

ii. Intentional and unintentional priorities

In the late 1990s, the municipal executive board in Laxå became aware that the municipality had lived beyond its means for many years. In this situation, the municipal executive board chose to prioritise welfare issues such as pre-schools, schools and elder care. In addition, the municipal executive board tended to give priority to the most urgent matters in the short term.

One result of these intentional and unintentional priorities was a growing discontent and several reassignments among skilled employees and managers in the technical sector. To fill the resulting vacancies, employees with practical skills were given the opportunity to become managers, without having either the education or the experience required for strategic management. Accordingly, the pathway chosen resulted in the organization losing both strategic and operational competence.

iii. The acceptance of policy feedback deficits

Several informants stated that it was natural for the municipal companies to "live their own lives" without active ownership control. By creating municipal companies that became increasingly autonomous, the municipal executive board had fewer and fewer issues of a strategic nature to deal with. According to one informant, the approach was as follows:

The companies manage their operations and report to the municipality. The fact that they live their own lives makes it difficult to plan strategically.

The management of the municipal company accepted this inactivity among the owners: the structure of the companies was characterised by management deficits, but the actors within the system – i.e. the staff in the municipal

companies – also suffered from a lack of strategic competence and did not question the weakness of their owners.

### Conditions making failure possible

A strained economy and problems with the water supply were important precepts for the creation of the municipal water and wastewater company in the early 2000s. The municipal executive board made the assessment that it would be easier to fund a new water supply if it was organised as an autonomous municipal company. Once the company had been formed and the new water supply was in operation, the water and wastewater problems in Laxå were considered to be solved. A number of other and seemingly more urgent problems in the municipality – a weak economy and a declining population – received all the political attention. The fact that water and wastewater is a long-term activity that requires regular scheduled maintenance and strategic planning was not on the agenda in Laxå. The municipality chose instead to prioritise schools and elder care, as these were considered to be more important activities in a shrinking municipality.

Since the formation of the water and wastewater company, the municipality has had major economic problems. As the water and wastewater company was achieving annual results that were positive or around break even, this was considered good enough.

In fact, the CEO described how he and the staff who worked at the company had received much praise over the years. The water service seemed to function pretty well; the municipal director stated that Laxå had not experienced any water or wastewater crises after the company had been formed. The CEO enjoyed a high reputation, he was knowledgeable in the area and was referred to as a nice person. Even the staff were considered to be proficient and loyal. All in all, the water and wastewater company enjoyed a high level of trust in Laxå. Although the CEO tried to argue for the need to carry out more maintenance and to develop strategic plans, scope was not created for this. Ironically, the new water supply, a popular CEO and loyal staff actually created obstacles to highlighting the need for maintenance in line with good financial management.

### Concluding summary

In this paper, we have contributed to a deeper understanding of policy failures in water systems management in shrinking municipalities in Sweden. We have presented theories of policy failure with a focus on the epistemology of failure, the conditions for failure and the behaviours preceding failure. The results, including our analysis, were structured based on the following set of questions: What kind of failure are we dealing with here? What are the organizational behaviours preceding the policy failure we are dealing with here? What are the conditions that precipitated the observed failure(s)? In the following concluding summary, we respond to these questions.

First, we understand this case as an example of a long-term policy failure. This failure means that generations of users of the water and wastewater systems have not fully paid for the services that they have received. Instead, the costs of maintenance and reinvestment have been postponed and will hit current and future generations of users in Laxå. The inability to implement formal policies in

the water management sector has created a huge maintenance deficit in the municipality.

Second, our study shows that the incapacity to maintain assets in accordance with good financial management stems from three sets of organizational behaviour; 1) The water and wastewater issue was considered to be solved once the company had been formed and the new water supply was in use. Water and wastewater evolved into a “non-issue” for the municipality. 2) Laxå’s choice to prioritise schools and elder care is noteworthy. These priorities resulted in the municipality’s technical departments being depleted of strategic skills and strategic plans were not developed. 3) There was no institutionalised system to manage fixed assets based on a life-cycle perspective.

Third, we have demonstrated that since the formation of the water and wastewater company, the municipality has had major economic problems. It has also had a declining population base since the 1970s. Because the water and wastewater company achieved annual results that were positive or around break even, this was considered to be good enough. In Laxå, the CEO also enjoyed a high reputation and was known as a knowledgeable and respected person. In addition, the members of staff were considered to be skilful and loyal. All in all, the water and wastewater company enjoyed a good reputation in Laxå. Although the CEO tried to argue for the need to conduct more maintenance and to develop strategic plans, scope was not created for this. The new water supply and the company’s good image created obstacles to highlighting the need for maintenance in line with good financial management.

In addition to these successful images of the water and wastewater company, there had been no significant water or wastewater crises during the time that the company had been in operation. As there was no crisis and the water from the new supply continued to come out of the tap, everything was considered to be good enough, although there was an awareness within both the company and the municipality that the level of maintenance of fixed assets was too limited.

In addition, the systems for policy feedback regarding water systems management were extremely poor. Laxå Municipality is a highly segmented organisation, resulting in the governance of the water and wastewater systems becoming disconnected from the core business of the municipal executive board. Apart from that, resident engagement in issues related to water management is low since it is a long-term activity where the municipal management provides no quick, visible effects for residents.

### Continued research

Due to the fact that many Swedish municipalities where fixed assets in water and wastewater have not been maintained in accordance with good financial management (see for example Jonsson and Syssner, 2016; The Swedish Sustainable Index, 2015, 2016 and 2017), there is reason to continue researching this. Good financial management in a Swedish municipal context includes the principle that each generation needs to pay for its legitimate share of what municipal operations cost, including annual maintenance according to a long-term plan. In this article, we have revealed three organisational behaviours within Laxå Municipality, that preceded its incapacity to maintain its water and wastewater assets in accordance with good financial management. We have also

discussed the conditions that enabled this policy failure. The ownership policy and guidelines dictated that the municipal company was to manage water and wastewater operations in an economically sound and environment-friendly manner. Despite this policy, the company did not maintain its fixed assets in an economically sound manner.

For obvious reasons, there were no spokespersons for future generations who could participate and monitor compliance with the ownership policy and guidelines. The question is therefore: what does it take to manage fixed assets according to good financial management? Is there any institutionalised system for managing water and wastewater fixed assets so that residents each year pay a fair amount of what this costs? A proposal for further research, therefore, is to study municipalities that have managed to reverse the trend of many years of neglected maintenance and have begun to maintain their fixed assets in accordance with good financial management. What behaviours characterize these organizations, and what conditions have enabled the change?

## Data

### Interviews

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The Head of Water and Wastewater Operations, 14-03-2017, 16-05-2017.

The Chair of the Municipal executive board, 23-01-2017.

The Chief Executive Officer of Laxå Vatten AB, 27-04-2016, 16-05-2017.

The Chief Financial Officer (CFO) of Laxå Municipality, 03-08-2018.

The Municipal Chief Executive of Laxå Municipality, 21-12-2016.

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