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DECENTRALIZATION: AN ANTIDOTE TO CORRUPTION IN WATER SERVICES?

**A Comparative Study of the Enabling Environment for Corruption
at Different Levels of Government**

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ABSTRACT

In the past two decades a common policy recommendation for improving water governance has been to shift the authority over water services to sub-national government departments. The advice to decentralize builds on principal-agent arguments and the assumption that decentralization increases citizens' possibilities to monitor the responsible bureaucrats. However, previous research provides inconclusive results concerning the effect of decentralization on corruption levels. Moreover, how decentralization impacts the enabling environment for corruption has rarely been empirically assessed despite its importance for decisions concerning institutional reform. This paper is a first attempt to contribute to resolving the uncertainty on the link between decentralization and corruption in water services. The paper empirically tests the contradictive theoretical expectations that previous research present by quantitatively comparing the enabling environment for corruption between water utilities at national, state, municipal and village level. Using survey-data collected for this paper, ANOVA-analyses show that accountability is stronger in decentralized water utilities than centralized water utilities. The analysis also suggests, but results remain non-significant, that decentralized water utilities are less subject to monopolies, while they experience more discretion than centralized water utilities. Taking all three mechanisms into account, the paper concludes that decentralized water utilities provide a less corruption-favourable environment than centralized water utilities.

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INTRODUCTION

Research in the recent decade has shown that the crisis in quality and quantity of water resources is a result of institutional failures and - above all - corruption within the management of water services.¹ The degradation of water resources has implications for the health of people and ecosystems, and reduces all forms of development and poverty reduction. Policy makers recognize that weak institutions, inefficient environmental regulations and the lack of accountability, among other factors, sustain and deepen the crisis (Government of Sweden, 2010). Following the emphasis on institutions the response to problems within water services has been searched for within this realm, and water governance² has developed into an important research area. As water is a prerequisite for development, the improvement of human and institutional capacities for managing water resources is a focus area of most international development agencies. In the past two decades their common policy recommendation for improving water governance has been to shift the authority over water services to sub-national government departments. The advice to decentralize builds on principal-agent arguments and the assumption that decentralization increases citizens' possibilities to monitor the responsible bureaucrats. Many countries today undertake decentralization reform. However, previous research provides inconclusive results concerning the effect of decentralization on corruption levels. Moreover, how decentralization impacts the enabling environment for corruption has rarely been empirically assessed despite its importance for decisions concerning institutional reform. This paper suggests a way to test the empirical support for the trend to decentralize in order to improve water governance, and provides initial results.

Acknowledging that corruption is detrimental to good water governance and that institutions, by determining the rules of the game, are essential in curbing corruption, this paper directs focus to the institutional mechanisms found to determine the incidence of corruption. Doing so, it takes a different approach than most other studies on corruption, which have stressed levels of corruption rather than the enabling environment for it.

¹ See e.g. Stålgren (2006), Government of Sweden (2010), Transparency International (2008)

² Definitions of water governance vary but are often similar to that of the GWP's: "Water governance refers to the range of political, social, economic and administrative systems that are in place to develop and manage water resources, and the delivery of water services, at different levels of society." (Rogers & Hall, 2003).

Revisiting the Discourse on Decentralization and Corruption

Reviewing the literature on decentralization and corruption, two extremes of findings become evident. Proponents as well as opponents of decentralization acknowledge that corruption and decentralization are linked, but their predictions differ as to which system provides the positive effects. For example, Adsera, Boix & Payne (2003) claim that how well a government functions depends on how well citizens can hold their government accountable. So far proponents and opponents agree, but views depart as to whether a decentralized or centralized system better fosters accountability. Proponents of decentralization argue that monitoring and accountability is strengthened in a decentralized system because it is easier for people to monitor bureaucrats at the local level than at the central level, and because responsibility is clearer. They assume that in a centralized system only aggregate performance is evaluated, which reduces the possibility for citizens to reward or punish performance. In a decentralized system on the other hand politicians can be held directly accountable for their actions (Fisman & Gatti, 2002). Opponents' views, like Treisman's (2000) cross-national study of the causes of corruption, to the contrary argue that decentralization, by creating many levels of government and a more complex system, reduces accountability. Treisman (2000) states that decentralization therefore makes it more difficult for citizens to direct blame and credit, and suggests that centralized states are more effectively monitored and experience less rent-seeking than decentralized. Prud'homme (1995) supports this claim and further argues that there are more opportunities for corruption at the local level because local bureaucrats have more discretionary powers than central bureaucrats and because local bureaucrats are more often pressured by demands from local interest groups (Fjeldstad, 2004). It is also suggested that corrupt practices are easier to hide in decentralized systems than in centralized (Goldsmith, 1999). Proponents of decentralization do not explicitly oppose these arguments but argue that discretion is reduced at the local level because bureaucrats are closer to their clients and therefore under greater risk of being reviewed. Proponents of decentralization further focus on competition, and claim that political and intergovernmental competition increases through decentralization. Decentralizing authority is said to increase checks and balances and to create incentives for sub-national governments to compete in delivering better public services. By increasing intergovernmental and political competition, decentralization is believed to reduce rent-seeking and monopolistic behaviour while improving service delivery (Fisman & Gatti, 2002). Opponents however contradict these arguments suggesting they build on an assumed mobility of

people that is not true. In many poor societies individuals cannot move to their preferred constituency and therefore, rather than creating competition, opponents argue that decentralization creates inequality within countries (Treisman, 2000). Finally, concerning the competence of bureaucrats and the quality of services, Huther & Shah's (1998) findings support the claim that decentralization enhances governance quality by better matching services with the preferences of citizens. Proponents claim that this is due to local governments being closer to the people and they therefore have an advantage in information. As local government better knows local needs and demands, it can more efficiently provide the services. However, Tanzi (2004) argues that sub-national governments often fail to deliver services because they are starved of resource and suggests they therefore implement damaging regulations.

In sum, the literature review reveals that the arguments for and against decentralization as an antidote to corruption cluster around four concepts; monitoring and accountability, competition between constituencies, discretion, and bureaucratic competence and quality (Fisman & Gatti, 2002) (Fjeldstad, 2004). These arguments are in large guided by principal-agent theory, which has greatly influenced the discourse and contemporary understandings of what mechanisms can explain good and bad governance. Principal-agent theory has often been used to understand how the public can control the bureaucrats to whom it delegates authority, a central aspect of understanding the logics of decentralization reform (Groot, 1988) (Eisenhardt, 1989). Founded in principal-agent theory Robert Klitgaard (1988) has proposed a now well-known formula that summarizes the core arguments of the discourse on decentralization and corruption, and thus the key institutional mechanisms that determine the enabling environment for corruption. According to the formula monopoly and discretion are understood to exacerbate corruption while accountability has a reducing effect. Interestingly, previous research leaves us with two contradictive theoretical expectations; whether a centralized or decentralized system better fosters the mechanisms that reduce corruption and weakens those that exacerbate corruption remains theoretically and empirically unsolved. This unsolved puzzle spurs the questions if decentralization is truly an antidote to corruption, and how fruitful policy recommendations for decentralization actually are for improving governance in water services.

Approaching the Inconclusiveness

This paper is a first attempt to resolve the prevailing uncertainties. It addresses the inconclusiveness by empirically testing the contradictive theoretical expectations in a governance area where extensive decentralization efforts have been made; the water services. The paper further delimits its focus to the sub-sector of “water for people”; thus water supply and sanitation. It investigates the institutional mechanisms that proponents as well as opponents of decentralization claim are key to determining the incidence of corruption, and tests if they are perceived stronger or weaker in water utilities run by sub-national government than in water utilities run by central government. The institutional mechanisms are summarized in Klitgaard’s (1988) formula, which is also commonly understood to well describe the problems faced in the governance of water services.³

The assumed relationship in focus of the paper is, consequently, that whether or not a water utility is decentralized affects the enabling environment for corruption – monopoly, discretion and accountability – which in turn affects the incidence of corruption. The investigation focuses on the relationship between decentralization and the three mechanisms, while it assumes that the three mechanisms affect corruption levels.

FIGURE 1. THE RELATIONSHIP IN FOCUS



As is pictured, derived from the literature review and principal-agent theory, the three mechanisms of Klitgaard’s (1988) formula make up the main dependent variables. Decentralization estimated as different levels of government makes up the independent variable. Accordingly, the explicit questions the paper seeks to answer are; is there more accountability in decentralized (local/municipal) water utilities than in centralized (state/national) water utilities? Is there less discretion in decentralized (local/municipal) water utilities than in centralized (state/national) water

³ See p.17 on the Governance Area: Decentralization and Corruption in Water Services

utilities? Are decentralized (local/municipal) water utilities less subject to monopolies than centralized (state/national) water utilities? Examining these questions, the paper assesses how sub-national government departments and central government departments compare in providing an environment where corruption is less likely to occur. The research questions are examined by analyses of variance (ANOVA-tests) on survey data measuring perceived levels of monopoly, discretion and accountability in water services. The data used was collected specifically for this paper in the Indian state of Manipur.⁴ By comparing groups on the independent variable inferences can be made as to how different levels of government co-varies with the dependent variables – the three institutional corruption mechanisms (Creswell, 2009). The comparative approach has been guided by the research questions, which are of an explicitly comparative nature, and they have in turn guided the construction of the questionnaire and the data collected.

As everyone is a water user any person is as good a respondent to the questionnaire as anyone, and a cross-national household survey would be ideal. As the data used in this paper was first collected for a master's thesis its extent is however limited. This paper is therefore better seen as a pilot study, providing the theoretical and methodological framework for approaching the subject, while more data is needed to confirm and extend results. Delimiting the sample to one state allows for conclusions within the same system, where the effect of omitted variables is smaller. A requirement for the data to be useful was however to reach respondents representing variance on the independent variable, thus the groups to be compared. India occurred as a good candidate as its

⁴ A survey was used to collect the data due to three main circumstances; firstly because there was no data available for neither the dependent variable nor the independent variables. Relying on primary sources was therefore the only option. Secondly, a survey was preferred to informant interviews because of the sensitivity of the subject. Using self-administered questionnaires anonymity could be guaranteed and the willingness to participate promoted. Thirdly, a survey design was suitable because of cost- and time-restraints. As a questionnaire enables a rapid collection of data at low costs this method allowed for a larger sample and a wider range of people to be included compared to other methods. A standard self-administered questionnaire was used to collect the cross-sectional data. The survey instrument used was designed for this study, and aimed at providing the three mechanisms respectively with a comparable value. As monopoly, discretion and accountability are complex concepts several questions were asked to each mechanism. This was to catch different aspects of the same mechanism and for truly assessing the theoretical assumptions as stated in the theoretical framework. Questions build on theoretical arguments found in previous research but were reworded to be more easily understood. The questionnaire also contained questions concerning age, gender, proxies for economic status and education level, and the independent variable – from which level of government the respondent receives water services. The questionnaire was carefully composed taking construct validity into consideration, but making theoretical concepts operational is always a balancing act. As already implied there is strong compliance between the theoretical concepts and the questions asked, and the risk for construct validity problems is therefore presumably low (Esaiasson, Gilljam, Oscarsson, & Wängnerud, 2007). To further alleviate the risk of respondents misunderstanding what was asked for, questions were formulated avoiding leading questions, loaded wording, abbreviations and negations. They also just asked for one thing only. Further, the questionnaire had a structured response format, except from a few open questions where response categories could not be known beforehand. Due to the sensitivity of some questions being asked, the order in which questions were asked was also carefully considered. Water professionals as well as people with no prior knowledge of the subject tested the questionnaire before it was distributed and found questions and response alternatives to be clear.

Panchayati Raj reforms, initiated in the 1980s and 1990s, are perhaps the world's largest decentralization initiatives, and the level of decentralization varies between and within states (Widmalm, 2004). With the coordinating assistance of the Director of the Jan Shikshan Sansthan⁵ (JSS) program in Manipur the questionnaire was distributed in rural and urban areas across the state of Manipur.⁶ Respondents are literate, English-speaking, adults (above 18), representing different professions and groups within society – e.g. students, housewives, academics and water professionals, living in urban or rural areas. Some, but not all, were associated professionally with the water field. Everyone was asked to respond in their capacity as water users, not as experts or representatives of their profession or program.

THE CHALLENGE: CORRUPTION

The phenomenon of corruption is subject to ambiguities in definitions, both as a concept and as an act. Aristotle described tyranny as a corrupt form of monarchy, and to view corruption as a disease of the political body is an important idea of the political thought of Rousseau, Machiavelli, and Montesquieu (Friedrich, 2002). Broad moral views of corruption as “institutional decay” and more narrow physical definitions as the acceptance of money for misusing official powers are historical understandings that have played an important role in shaping how we define corruption today. Today's political scientists quite consistently describe corruption as “transactions between the private and public sectors such that collective goods are illegitimately converted into private-regarding payoffs” (Heidenheimer & Johnston, 2002:6). Different approaches prevail but will not be in focus here; rather the core meaning that can be distinguished is of interest. That is, that corruption is behaviour that departs from the prevalent norm in a given context, and is associated with the motivation of private gain at public expense (Friedrich, 2002). In compliance with this core

⁵ The Jan Shikshan Sansthan is a scheme of the Government of India that funds district level resource support agencies. JSS begun as a literacy movement but has extended to other development areas, among which one is to build critical awareness of the environment. For more info visit the Ministry of Human Resource Development of Government of India.

⁶ In total 85 questionnaires were distributed at different locations between July 25th and August 20th 2011, 56 were completed and returned. Out of these, 35 were conducted as a group-survey and the remaining 21 filled in at the home of the respondent. 11 of the questionnaires had to be excluded due them not indicating a value for the independent variable.

meaning corruption has often been spoken of as “the misuse of public office for private gain”⁷ and can be described following five premises;

1. “A public official (A),
2. in violation of the trust placed in him by the public (B),
3. and in a manner which harms the public interest,
4. knowingly engages in conduct which exploits the office for clear personal and private gain in a way which runs contrary to the accepted rules and standards for the conduct of public office within the political culture,
5. so as to benefit a third party (C) by providing C with access to a good or service C would not otherwise obtain.” (Philp in Heidenheimer & Johnston, 2002:42)

Corruption takes place at many levels and scales, ranging from a single act to being the norm within a political system. What is actually determined to be a corrupt action varies between settings and analyses depending on the definition of corruption and the legal framework. Much has further been written about specific types of corruption, but they are not in focus here.⁸ Turning instead to the causes, corruption has often been seen either as a structural problem of economics and politics or as a moral problem of cultures and individuals (Fjeldstad & Andvig, 2001).⁹ Political science has focused on institutional characteristics, regime types and democracy when approaching corruption. Different governance systems and institutional structures determine the rules of the game and

⁷ For example, this is the definition used by the World Bank.

⁸ Nevertheless, petty and grand corruption make important distinctions of the types, levels and scales of corrupt practices (UNDP, 2008) (Stålgren, 2006). Petty corruption, also referred to as bureaucratic or administrative corruption, takes place in the meeting between the public and public officials. It occurs at the implementation end of politics and is thus experienced in daily life (U4 Anti-Corruption Resource Centre, 2011). Grand corruption, also referred to as political corruption, involves political decision-makers and takes place at the policy formulation end. It usually involves larger sums of money and occurs when the legal bases of the system are weak and rulers abuse rules (U4 Anti-Corruption Resource Centre, 2011). Grand corruption influences which decisions are made and how, and therefore directs unmerited powers to the rulers and misallocates resources. Other types of corruption are bribery, clientelism, cronyism, extortion, embezzlement, favouritism, grease money, kickbacks, nepotism, patronage and fraud (U4 Anti-Corruption Resource Centre, 2011).

⁹ In more detail, explanations as to what causes corruption can be put into three broad categories; one focusing on societal and historical factors, the second on the role of public policies, and the third on international actors and how the public sector is organized (Gerring & Thacker, 2004). Within the first category explanations concern e.g. economic development, the impact of colonialism (see e.g. (Acemoglu, Johnson, & Robinson, 2001), (Acemoglu, Johnson, & Robinson, 2005), (Olsson O. , 2010)), population density, geography (see e.g. (Alesina, 2003)) and the “curse of natural resources”, (see e.g. (Sachs & Warner, 2005), (Mehlum, Moene, & Torvik, 2006), (Olsson & Congdon Fors, 2010)) social inequality (see e.g. (Esaïasson, Gilljam, Oscarsson, & Wängnerud, 2007), (Rothstein & Uslaner, 2005)) social capital (see e.g. (Rothstein & Eek, 2006), (Nannestad & Svendsen, 2005), (Kumlin & Rothstein, 2007)), political culture, and media. In the second category causes of corruption are found in trade policies (see e.g. (Levchenko, 2007), (Nunn, 2007)) regulatory burdens and tax structures. The third category looks at techniques of corruption control, like accounting procedures, anti-corruption commissions (see e.g. (Svensson, 2006), (Mungiu-Pippidi, 2006), (Persson, Rothstein, & Teorell, 2010), (World Bank, 2000)) and enforcement mechanisms (see e.g. (Gerring & Thacker, 2004)). These are all causes that to some extent explain why certain societies are more corrupt than others.

favour different economic behaviour. As such, institutions are important determinants of corruption (Rodrik, Subramanian, & Trebbi, 2004). Of great interest has been the balance of power between state institutions, checks on the executive branch and power de-concentrations like decentralization or privatization (Fjeldstad & Andvig, 2001). The main cause of corruption has thus generally been understood to be a “democratic deficit” or a lack of governance mechanisms such as power-sharing, checks and balances, accountability and transparency, which makes the government misrepresent the wishes of the public. To understand how the causes of corruption can be curbed principal-agent theory provides a useful framework. As principal-agent theory specifically focuses on the relationship where a principal (state/public) delegates work and power to an agent (bureaucrat) who performs it and the problems that arise in such relationships, it is further much relevant to this paper (Eisenhardt, 1989).

A Lack of Governance Mechanisms

Principal-agent theory focuses on problems that occur in relationships where a principal has transferred tasks to an agent. Who the agent and the principal are depends on the context. If assuming that the state acts in the interest of the public the state may be seen as an agent acting on behalf of the public. In turn, the state delegates the tasks requested by the public to the bureaucrat. The bureaucrat then becomes an agent, while the state may be seen both as a principal to the bureaucrat and as an agent to the public. Recalling the definition of corruption on the previous page “a *public official* (A), in violation of the trust placed in him by the *public* (B)[...]”, the public is seen as the principal and the bureaucrat as the agent in this paper.

Agency problems occur when tasks are transferred and the principal and agent have conflicting desires and goals, and it is further difficult or expensive for the principal to check what the agent is actually doing (i.e. if the agent does his/her job). The divergence in goals is a problem assuming that the agent is likely to adopt a self-serving behaviour seeking to maximise his/her self-interest if he/she is not controlled by a contract (Eisenhardt, 1989).¹⁰ Such contracts, that control the agent, are governance mechanisms that create ways to motivate the agent to act on behalf of the principal

¹⁰ Moral hazard and adverse selection are two aspects of this assumption. “Moral hazard” refers to the agent’s lack of effort, and “adverse selection” to an increased presence of “bad lemons” in the market and the difficulty that follows for the principal to tell the agent’s true type, and thus the risk of the agent failing to fulfil the contract (Eisenhardt, 1989).

and for the principal to verify what the agent is doing. The contribution of principal-agent theory is to find and describe these governance mechanisms. For example, it suggests that information systems curb the agent's opportunistic behaviour, as the principal will see what the agent does, and the agent therefore cannot deceive the principal (Eisenhardt, 1989). Building on principal-agent theory Robert Klitgaard's (1988) equation of the core mechanisms of corruption has been commonly used. He suggests that "Corruption = Monopoly + Discretion – Accountability" (Klitgaard, 1988:75), meaning that corruption is a function of the degree of monopoly that someone holds over a certain service, their discretion in deciding who gets what, and the degree to which their service is accountable (Warner, o.a., 2009). Like principal-agent theory proposes, the formula suggests that information asymmetries caused by monopoly and discretion constitute agency problems, and monitoring mechanisms for holding agents accountable to their actions are needed in order to limit the agents' self-serving behaviour.

The Enabling Environment for Corruption

Considering first the problem of monopolies in causing corruption. By nature, many public sector activities provide the government with monopolistic powers over certain goods and services. When monopolies are allowed within an economy people may try to gain that monopoly for obtaining the monopoly rents that occur as higher prices can be charged, compared to the prices charged in a competitive market (Posner, 1975) (Klitgaard, 1988). Such rent-seeking is unproductive as the resources and effort that were spent in trying to capture the monopoly privileges do not produce any goods or services (Posner, 1975). Yet, when the discretionary powers of officials are strong and they hold monopolistic powers over a certain good or service, they will be tempted to exploit the privileges and charge monopoly rents (Eisenhardt, 1989) (Klitgaard, 1988). As a consequence, citizens will pay too high a price for the good or service. Another way in which monopolies create inefficiencies is by distorting the focus of officials from productive behaviour to the pursuing of rents (Klitgaard, 1988). Their focus on gaining monopoly power over clients also makes corruption spread throughout government, as officials trigger each other. A combination of monopoly and discretion thus give incentives for corrupt behaviour by public officials, and reduces the incentives for honest decision-making. The opposite to monopoly is of course competition and can be induced by privatization or by devolving responsibility to competing constituencies, as goes one

argument for decentralization. There is however a risk that the market failures the government was there to reduce are then reintroduced. For example, government may have interfered for reducing inequalities by redistributing a basic good or service.

Discretion gives public officials the freedom to decide how they exercise their power, how to act, and allows them to base their decisions on own judgement. From the public's point of view and interest, abused discretion can thus result in detrimental decisions. Discretion is controlled by the risk of being reviewed, within the organizational ladder and by the public (Klitgaard, 1988). Accountability therefore comes in as the mechanism to prevent the exploitation that follows from monopolistic power and discretion, as it enables citizens to demand that elected officials are held responsible for their actions. By definition, accountability is the action of holding individuals, agencies and organisation responsible for executing their powers properly (Transparency International, 2009). Without accountability discretion will weaken the boundaries between political and private interests and consequently the efficiency of political institutions (Johnston, 2005). Accountability is thus a must for responding to and preventing corrupt behaviour. It can be executed in three different forms across the public sector; diagonally, horizontally or vertically. Diagonal accountability is when government institutions enables citizens to have better oversight of state actions, e.g. by allowing citizens to engage in policy-making processes or expenditure tracking activities (Transparency International, 2009). Horizontally, accountability concerns separating powers and creating checks and balances within the state apparatus. It is about government agencies putting restraints and oversight on each other, and making public officials subject to punishment for misusing their powers. Vertical accountability is measures for citizens to hold officials accountable, e.g. through elections, an active civil society and media (Transparency International, 2009).

Having examined the mechanisms of monopoly, discretion and accountability it should be clear that they are interlinked and together make up the enabling environment for corruption. It should also be clear how principal-agent theory works as a framework for understanding the linkages, as what really constitutes the problem is the difficulty for the state/public to verify the work of the bureaucrats if accountability mechanisms are lacking while there is a monopolistic situation and discretionary powers are extensive.

THE RECOMMENDED ANTIDOTE: DECENTRALIZATION

The 1990's brought much scepticism to strong central government as an efficient and legit player to distribute resources and guide management reforms. As a response, the idea of decentralizing power became much attractive, believed to improve locals' influence over decisions that affect them. On a general note "decentralization takes place when central government transfers powers to actors and institutions at lower levels in a political-administrative and territorial hierarchy" (Ribot, 2002:3). As such, decentralization gives lower levels of government greater authority in delivering services. While all types of decentralization involve a shifting of power and resources away from central government to sub-national entities, three types of decentralization are often distinguished between; administrative, fiscal (economic), and political decentralization (Manor, 1997) (Schneider, 2003).¹¹ The three types can occur in isolation or simultaneously and are all included in the political and public sphere of society. Privatization, which is sometimes confused with decentralization, is consequently not a form of decentralization. As privatization transfers tasks outside of the political system it is really a different process, however it often follows as a result of decentralization reform (Manor, 1997). Within the different types of decentralization there are also different ways of transferring tasks, which determine the level of autonomy given to sub-national entities. Sub-national entities therefore vary in their level of autonomy but are all self-managed through their own governments. State, municipal and village are common levels to which responsibility is transferred, but many variations exist. While municipal and village level is clearly sub-national entities, the state level may sometimes play the role of national government. This is when, for example in federal countries, national government only has few functions, e.g. safeguarding national security, international diplomacy and legislative matters.

¹¹ Administrative decentralization refers to the administrative effects of granting local jurisdictions autonomy from central control and thus concerns how much autonomy sub-national entities possess relative to central control (Schneider, 2003). The level varies between different systems and is usually more specifically defined according to three terms; de-concentration, delegation and devolution. Out of the three types of administrative decentralization devolution gives most autonomy to local governments. Secondly, political decentralization is defined by the degree to which non-central government are allowed to undertake the political functions of governance (Schneider, 2003). Such functions are e.g. mobilization, organization, participation and aggregation of interests. These functions can be summarized as representation, which is thus key to understanding political decentralization and puts local elections at the centre. If politically decentralized, political actors and issues are significant at the local level and to some extent independent from the ones at national level. In a politically decentralized system citizens define their interests out of local concerns and vote for local parties in local elections (Schneider, 2003). Finally, fiscal decentralization refers to how much central governments devolve fiscal (economic) impact to non-central government units (Manor, 1997). In research on fiscal decentralization the sub-national share of expenditures or revenues usually serve as a measurement of decentralization. The larger the proportion of revenues collected by sub-national governments the more fiscal impact has been transferred from central government to sub-national units.

This paper distinguishes between and compares the enabling environment for corruption at the four common levels of government just mentioned. Like most other studies before it, it fails to determine the type of decentralization or level of autonomy, but it extends the framework to differentiate between four levels of government and not only between “Decentralized” and “Centralized”. To allow for a clear-cut distinction between decentralized and centralized cases the four levels are however also merged, so that village and municipal level make up the “Decentralized” group, and state and national level the “Centralized”. This division is reasonable as it obviously groups the two highest and the two lowest levels of government, but also as state level has the role of national government in the cases included in the analysis.¹²

Today, few oppose the idea that de-concentrating powers increases government legitimacy, but views vary as to what extent goods and services should be in the control of local government. Proponents of decentralization tend to focus on how decisions are made – where and by whom – while opponents tend to focus on the content and thus the consequences of implementing different decisions across a country (Rothstein & Ahlbäck Öberg, 2010). As central government can make decisions that influence equal distribution and equal rights nationally, arguably certain responsibilities should remain with central institutions. Further and according to principal-agent theory, assuming that politicians are self-interested, delegating responsibilities and decision-making does open up opportunities for corruption and inefficiencies, which must be counterbalanced (Adsera, Boix, & Payne, 2003). Either way, the institutional arrangements that shift under decentralization reform impact governance, and leaders embark on decentralization reform believing it improves the enabling environment for good governance (Rothstein & Ahlbäck Öberg, 2010). Delimiting the scope of this paper however, focus is on the role of decentralization in determining the risk for corruption, rather than the overall goals of such reform. The following section therefore looks further into the theoretical expectation that decentralization improves the enabling environment by impacting the institutional mechanisms.

¹² The cases are from Manipur, India. As India is a federal state power has never shifted from central government to state level, but Manipur was merged into the Indian Union and later became an Indian state (Government of Manipur). The state level can therefore not be seen as decentralized and is consequently categorized as “Centralized” in this paper.

Linking Decentralization and the Enabling Environment for Corruption

Monopolistic behaviour

Shifting authority to lower levels of government is similar to introducing new actors on a market. Even though sub-national entities are to varying degrees under the control of the same central government, decentralization is understood to create incentives for competition between sub-national entities. As citizens within a decentralized system can choose their preferred service provider by moving to another area, the service provider is given an incentive to provide better and cheaper services (Fisman & Gatti, 2002). For local governments decentralization thus introduces competition in attracting residents (Brennan & Buchanan, 1980). This inter-jurisdictional competition is similar to the role competition plays in product markets and it reduces the ability of rent-seeking by bureaucrats (Fisman & Gatti, 2002). Further, as political competition increases due to decentralization bureaucrats are less likely to abuse power, because there is a credible threat of losing power. With perfectly informed voters then, there should not be any rent-seeking at all among politicians (Adsera, Boix, & Payne, 2003). This aspect relates to the mechanism of accountability, which closely follows the principal-agent theory. Consequently, a decentralized system with inter-jurisdictional and political competition has more checks and balances than a centralized system, and is predicted to lead to lower levels of corruption since it is assumed to reduce monopolistic behaviour.

Accountability

As mentioned earlier, principal-agent theory predicts that the reduction of corruption is dependent on the extent to which the principal (state/citizen) can hold the agent (bureaucrat) accountable. Executing accountability is in turn dependent on citizen's information about the world and about the decisions that bureaucrats make; the more information the smaller is the space for corruption (Adsera, Boix, & Payne, 2003). Decentralization helps in making this space smaller. A bureaucrat at sub-national level is responsible for one, or few, tasks specific to that jurisdiction. Their work is therefore visible, easier to monitor and they can be held accountable directly, which is expected to improve their performance (Fisman & Gatti, 2002). At the contrary, in a centralized system where bureaucrats are responsible for many tasks of concern to many regions only aggregate performance is assessed, which reduces the possibility of citizens to reward and punish performance and thus makes the space for corruption larger (Fisman & Gatti, 2002) (Adsera, Boix, & Payne, 2003). Further, citizens are likely to be better informed as decentralization moves decision-making closer

to the citizens who are actually affected. According to this argument, there are thus greater opportunities for accountability within a decentralized system, which make public officials abstain from corruption and fulfil the tasks they are meant to do.

Discretion

Discretionary powers must be exercised by political entities, however they should be used according to the legal framework, reasonably and impartially. Therefore bureaucrats must be well informed and competent. As discretion is limited by the risk to be reviewed the risk should be smaller in a decentralized system following the arguments that decentralization increases accountability. Further, the fact that the principal (citizen) is closer to the agent (bureaucrat) in a decentralized system arguably reduces the agent's room of manoeuvre. Bureaucrats at lower levels of government are also assumed to have an advantage in information concerning local needs and wishes compared to central bureaucrats and are thus more competent and less prone to abuse their discretionary powers (Huther & Shah, 1998). It is consequently through its close links to accountability that lower levels of government are predicted less discretion.

As described, the three mechanisms in focus are interlinked and should be viewed in relation to each other. In accordance with Klitgaard's (1988) equation, the just presented theories that ascribe local government less monopolistic behaviour, less discretion, and more accountability than central government, suggest decentralization is a true antidote to corruption (Fjeldstad, 2004). Yet, as stated in the introduction these theories are counter-argued by the other side of the debate, which provide contradictive arguments and expectations. Consequently the aim of this section has been to clarify the arguments that make decentralization a common policy recommendation, but as these arguments are disputed it should not be concluded that decentralization does improve the enabling environment for corruption. Rather, it is clear that the level within a political system at which responsibility and decision-making take place is linked with monopoly, discretion and accountability, but that the net relationship remains contested.

THE GOVERNANCE AREA: DECENTRALIZATION AND CORRUPTION IN WATER SERVICES

Corruption in water services concerns corruption of a resource and related services that are fundamental for life and all forms of development. According to the World Bank up to 40% of water sector finances are lost in corruption or dishonest practices, and corruption is said to constitute the core of the water governance crisis (Stålgren, 2006). The problems of corruption in water services have often been explained by Klitgaard's (1988) mechanisms. The water sector has been said to be highly monopolistic with strong discretionary powers and lack of accountability (World Bank Institute and Transparency International, 2009) (Stålgren, 2006). This is mainly due to the sector demanding large-scale constructions and thus the expertise of few, while water services are costly and have a high level of public sector involvement, high demand and many interrelations between suppliers and users (World Bank Institute and Transparency International, 2009) (Stålgren, 2006). With a strong position of the agent in relation to the principal, information asymmetries create agency problems. Also, the administrative structure has often been complex and the sector has suffered from lack of competence and resources (World Bank Institute and Transparency International, 2009) (UNDP Water Governance Facility at SIWI, 2011). In combination with a low demand from the public to review bureaucrats, accountability has often been lacking.

As a remedy to the aforementioned problems decentralization has been extensively promoted. The fact that IWRM¹³-reforms, which have decentralization at their core, are being undertaken in approximately one hundred countries clearly exemplifies the extensiveness (Stålgren, 2006). Further, commitment to decentralization is a common element of donor supported anti-corruption strategies for the water sector (Fjeldstad, 2004). The process of decentralization of water services however depends on governance structures, how responsibility is divided, as well as on funding and the capacity of government (Steffensen, 2010). The extent to which water services are decentralized therefore varies between countries and also between sub-sectors (Steffensen, 2010). Keeping in mind that the level of and potential for decentralization varies between regions and sub-sectors, there has still been a strong trend towards decentralization reforms for water services over the past two decades. The question that remains to be investigated is whether or not decentralization in general helps to reduce the governance problems that water services often face.

¹³ Integrated Water Resources Management

DATA AND MODELS

The data consists of seventeen variables measuring monopoly, discretion and accountability, including control variables. The dataset covers another twenty-six related variables, which are not used in this paper.

The Independent Variable: Measure of Decentralization

The independent variable measures which level of government that has general oversight of the water utility that provides the services. It runs from national government department, - state government department, - municipal government department, to village government department. The variable ranges from 1-4 with National government representing the lowest value and Village government department the highest. Table 1 presents the number of cases at each level of government, and the percentage, mean, median and standard deviation. As is shown National level is not represented¹⁴ in the sample and is therefore excluded from the analyses.

TABLE 1. DESCRIPTIVES OF INDEPENDENT VARIABLES

Level of Government	Frequency	Percentage (valid)
National	.	.
State	26	31.7 (57.8)
Municipal	10	12.2 (22.2)
Village	9	11.0 (20.0)
Total	45	54.9 (100.0)
Mean	Median	Std. Deviation
2.6222	2.0000	0.80591

Comment: Frequency table showing the number and percentage of cases at four levels of government. The mean, median and standard deviation of decentralization (the independent variable, measured as level of government) is also shown.

¹⁴ For further explanation see p.14 and footnote 12.

Dependent Variables: Measures of Monopoly, Discretion and Accountability

Most of the dependent variables are ordinal, and the few dichotomous ones are treated as ordinal variables because responses indicate a direction of limiting or exacerbating the risk for corruption. Since accountability and discretion were measured by multiple questions in the survey, variables are aggregated to indexes for the two mechanisms respectively. Indexes are useful as they reduce complexity and thus make the analysis easier. Further, indexes increase reliability as the combined value of several variables is less likely to be by chance than the answer to one single question (Esaiaasson, Gilljam, Oscarsson, & Wängnerud, 2007). The indexes were tested for internal reliability and the decision of which variables to include was balanced off taking the Cronbach's Alpha score into consideration on the one hand and theoretical motives on the other. The indexes are shown in Table 2. The variables measuring monopoly showed not to make a good index, and monopoly is therefore measured by one explicit variable measuring the perception of the extent to which the water supplier faces competition. Table 3 presents the frequency, mean, median, standard deviation and range of the three dependent variables.

TABLE 2. ACCOUNTABILITY AND DISCRETION INDEXES

Accountability Index	Discretion Index
No of Items: 10	No of Items: 5
Cronbach's Alpha*: .709	Cronbach's Alpha*: .653
Variables Included: F12. Clarity in who is responsible F13. Know where to send praise and complaints F14. Anonymous complaints F16. Effect of complaints F18. Follow the work F19. Transparent actions and decisions F20. Information availability F23. Vertical accountability F24. Horizontal accountability F25. Involved in decision-making	Variables Included: F26. Clarity F27. Honesty F28. Openness F30. Own judgement F31. Risk to be reviewed

*System-missing values are excluded from Cronbach's Alpha

Comment: Table showing the variables included in the two indexes and the Cronbach's Alpha. Cronbach's Alpha runs from 0-1, the higher the better variables go together.

TABLE 3. DESCRIPTIVES OF DEPENDENT VARIABLES

	Accountability Index	Discretion Index	Monopoly
N	Valid: 27	Valid: 43	Valid: 69
	Missing: 55	Missing: 39	Missing: 13
Mean	.6444	.6279	.2367
Median	.7000	.8000	.0000
Std. Deviation	.25318	.27109	.32389
Range	0-1	0-1	0-1

Comment: Frequency table showing the number of cases, mean, median, standard deviation and range of the dependent variables. The large share of missing values is due to “no opinion” being coded as system-missing.

All variables are coded so that a higher number corresponds to less predicted corruption; the higher the score the less corruption favourable environment. In other words, a higher number indicates *less* monopoly, *less* discretion and *more* accountability. Further, non-answers, “no opinion” and “I don’t know” have been coded as system missing, since they could not be provided with a value (Bryman, 2008). Throughout the analyses there may therefore appear to be many missing values even though almost all collected questionnaires were completed. To make interpretation easier the indexes and the monopoly variable run from min. 0 to max. 1.

Control Variables

Making conclusions based on comparison demands that other variables that are known to affect the level of decentralization and corruption are controlled for. The survey-data contains information on gender, age, level of education and proxies for economic status. These standard variables are controlled for.¹⁵

¹⁵ Descriptives of control variables in the appendix.

Models

The objective of the analysis is to compare the institutional corruption mechanisms between different levels of government. An analysis of variance (one-way ANOVA) is conducted to assess the mean differences of the three mechanisms at the different levels of government. ANOVA tests the hypothesis that all means are equal, by comparing the variance of means between groups with variations within each group. If the variance between groups is higher than the variance within groups the result is statistically significant (Miller, Acton, Fullerton, Maltby, & Campling, 2002). A significant result indicates with 95 % certainty that at least one mean differs from the other, and not by chance (Miller, Acton, Fullerton, Maltby, & Campling, 2002). The ANOVA-test thus tells us whether there are variances between groups or not, but it does not tell us which groups that differ. Therefore, a Post-Hoc comparison follows in the cases where the ANOVA shows a significant result. Tukey's Post-Hoc test reveals the pattern by showing the mean differences between groups and whether they are significant or not. ANOVA-tests are run with two versions of the independent variable; with four (three) levels of government and as a dichotomy of "Centralized" and "Decentralized".

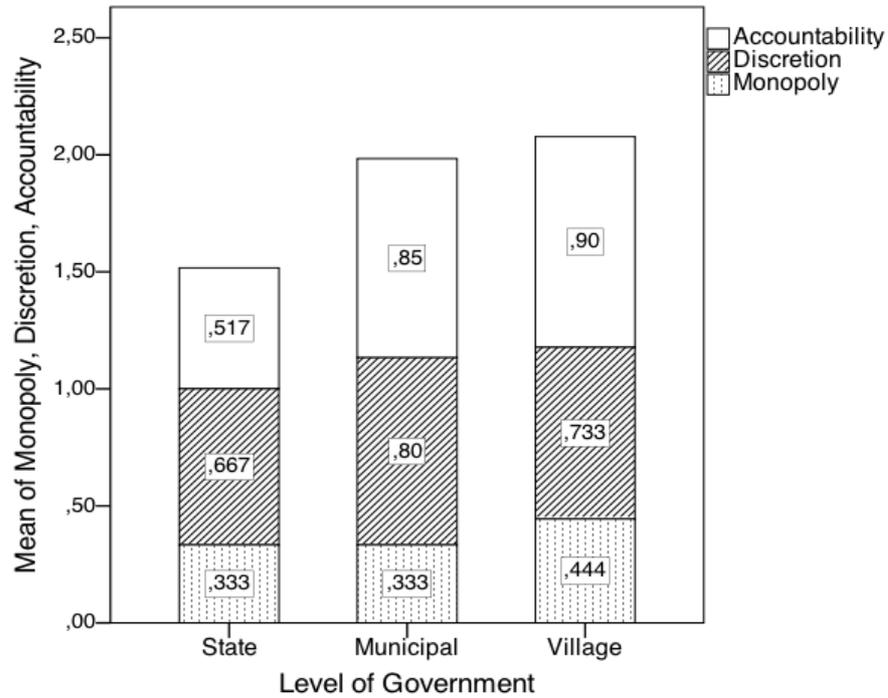
All data analyses are conducted in SPSS.

RESULTS AND DATA ANALYSIS

Before proceeding with the analyses it should be emphasized again that all mechanisms run so that a higher number represents a "better" result predicting less corruption. Consequently, the higher the number the less discretion, less monopoly and the more accountability is represented. The theoretical expectation tested is, in accordance with current policy recommendations, that lower levels of government will receive a "better" result, thus a higher score on all mechanisms, compared to higher levels of government.

Graphs help to visualize the first results. Figure 2 shows the means of the three mechanisms. As State level is the highest level of government within the sample, only three levels are shown.

FIGURE 2. MEAN OF MONOPOLY, DISCRETION AND ACCOUNTABILITY BY DECENTRALIZATION



Comment: Note that the higher the mean the less monopoly, the less discretion and the more accountability. Thus; a taller bar predicts a less corruption-favourable environment than a shorter bar.

Stacking the mechanisms the graphs (Fig. 2) show that the total means of the three mechanisms run in the expected direction, but that means are equal for Monopoly at State and Municipal level, and that the mean for Discretion is lower at the Village level than at Municipal level. Consequently, the mean of some mechanisms do not follow the expected pattern. The differences are however small and we therefore proceed to test the significance of the mean differences. The ANOVA-test in Table 4 shows that Accountability is the only mechanism where the differences in means are statistically significant between at least two groups. Discretion is however also close to being significant at the 0.1-level.

TABLE 4. ANOVA-TEST

Variance of Means between Different Levels of Government, for Accountability Index, Discretion Index and Monopoly.

	Level of Government	N	Mean	ANOVA-sig.
Accountability	State	9	.4889	0.003***
	Municipal	2	.8500	
	Village	3	.9000	
Discretion	State	13	.7231	0.109(*)
	Municipal	7	.8000	
	Village	5	.6000	
Monopoly	State	20	.3333	0.525
	Municipal	7	.2857	
	Village	5	.5333	

*p<0.1, **p<0.05, ***p<0.01

Tukey's Post-Hoc test, shown in Table 5., further specifies that the means of Accountability differ significantly at the 0.05-level between State and Municipal levels by 0.36111 in favour of the Municipal level, and between State and Village levels by 0.41111 in favour of the Village level.

TABLE 5. TUKEY'S POST-HOC TEST

Dependent Variable	(I) Independent Manipur sample	(J) Independent Manipur sample	Mean Difference (I-J)	Sig.
Monopoly	State	Municipal	0.04762	0.959
		Village	-0.20000	0.570
	Municipal	State	-0.04762	0.959
		Village	-0.24762	0.534
	Village	State	0.20000	0.570
		Municipal	0.24762	0.534
Discretion	State	Municipal	-0.07692	0.546
		Village	0.12308	0.303
	Municipal	State	0.07692	0.546
		Village	0.20000	0.091
	Village	State	-0.12308	0.303
		Municipal	-0.20000	0.091
Accountability	State	Municipal	-0.36111**	0.028
		Village	-0.41111***	0.005
	Municipal	State	0.36111**	0.028
		Village	-0.05000	0.931
	Village	State	0.41111***	0.005
		Municipal	0.05000	0.931

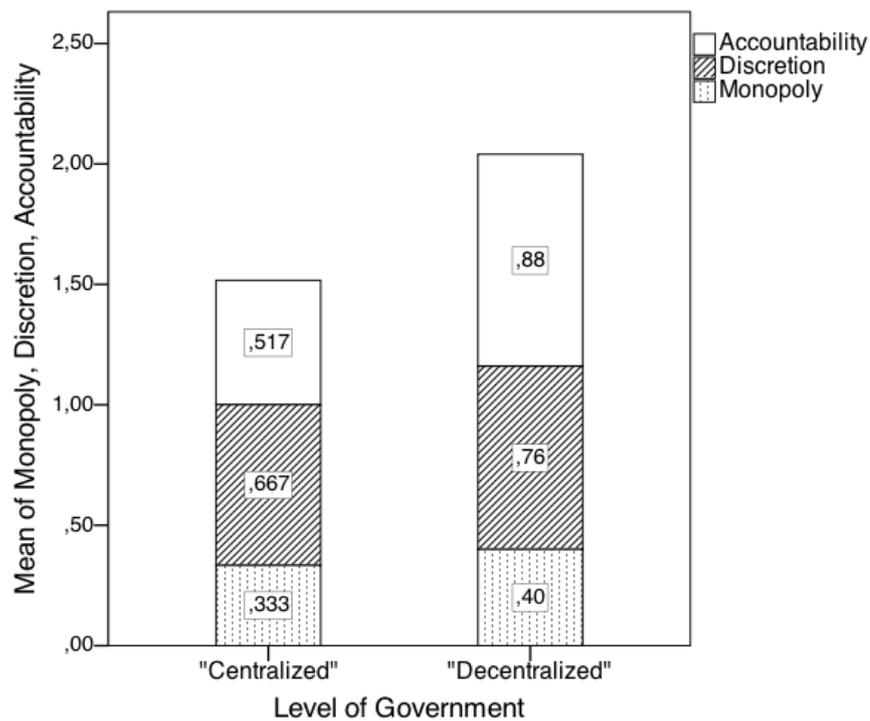
*p<0.1, **p<0.05, ***p<0.01

Comment: Tukey's Post-Hoc test showing the mean differences of monopoly, discretion and accountability between different levels of government.

Moreover, Discretion significantly differs at the 0.1-level between Municipal and Village levels by 0.2000, in favour of the Municipal level. Accountability thus follows the expected pattern while Discretion shows contradictive results when Municipal level is reported a higher mean of Discretion than both Village and National levels. Monopoly shows no significant results.

In order to provide a clear-cut divide between “Centralized” and “Decentralized” the graphs in Figure 3 show the results of the mechanisms by the independent variable as a dichotomy. It shows that the “Decentralized” group has a higher total mean by 0.526 compared to the “Centralized” group, and that the individual mechanisms also run in the expected direction.

FIGURE 3. MEAN OF MONOPOLY, DISCRETION AND ACCOUNTABILITY BY “CENTRALIZED” AND “DECENTRALIZED”.



Comment: Note that the higher the mean the less monopoly, the less discretion and the more accountability. Thus; a taller bar predicts a less corruption-favourable environment than a shorter bar.

The ANOVA-test is then run with the independent variable as a dichotomy to test if the mean differences of the mechanisms are significant (Table 6).

TABLE 6. ANOVA-TEST, DICHOTOMOUS

Variance of Means between “Centralized” and “Decentralized” for Accountability, Discretion and Monopoly.

	Level of Government	N	Mean	ANOVA-sig.
Accountability	“Centralized”	9	.4889	.000***
	“Decentralized”	5	.8800	
Discretion	“Centralized”	13	.7231	.924
	“Decentralized”	12	.7167	
Monopoly	“Centralized”	20	.3333	.701
	“Decentralized”	12	.3889	

*p<0.1, **p<0.05, ***p<0.01

It shows that the mean differences for Accountability are significant at the 0.01-level, while Monopoly and Discretion do not show any significant differences between levels of government. The mean of Accountability is 0.3911 higher in the “Decentralized” group than in the “Centralized”. The sample thus shows a significant difference in Accountability between the “Centralized” and “Decentralized” groups, and also between State and Municipal levels, and State and Village levels. They all run in the expected direction.

Summary of Results

The analysis has provided several key results. Firstly, the variances of means are significant for the Accountability mechanism between State and Municipal level by a difference of 0.3611, and State and Village levels by a difference of 0.4111. These results are significant and in favour of lower levels of government. When grouping the levels of government in two, the differences of means for Accountability are, as expected, significantly higher in the “Decentralized” than the “Centralized” group by 0.3911. Discretion is shown a higher mean at Municipal level than at Village and State levels, a result that is almost significant at the 0.1-level (0.109). This is the only (almost) significant result that contradicts the expectation that decentralized water utilities perform better.

Summarizing the results according to the mechanisms the sample shows that there is more accountability at lower levels of government. These results are significant either at the 0.01- or the 0.05-level. As for Monopoly no significant results have been reported. Yet, Monopoly follows the expected direction as higher means are reported at lower levels of government. Discretion is shown to have a (almost significant) higher mean at the Municipal level than at both Village and State

levels. This runs contrary to what is expected, and discretion is thus the only mechanism where results do not support decentralization in improving the enabling environment.

Interpreting the Results

The research questions posed in the beginning of the paper can now be answered. First, however, a comment should be made concerning statistical significance. In analyses based on small samples it is more difficult to detect effects than with large samples. For example, Allison (1999) states that correlations must be at least 0.25 to be statistically significant if the sample size is 60, while if the sample size is 10,000 the lower limit is 0.02. Consequently, it is easier to receive significant results with a larger sample and therefore, as Allison puts it; “[...] In a small sample, statistically significant coefficients should be taken seriously, but a non-significant coefficient is extremely weak evidence for the absence of an effect” (Allison, 1999:57). As the results of this paper are based on a small sample they should be interpreted taken Allison’s (1999) general principle into consideration; the significant results should be taken seriously while the non-significant results should not be taken as evidence that there is no effect, but rather as motivation for further research. Let us then establish based on the results of this paper that we can be rather confident that there is more perceived accountability at lower levels of government. We can also be quite confident that there is less perceived discretion at municipal than village level. Further, as results are non-significant we cannot tell from this paper that monopoly does *not* vary between levels of government, but results uncertainly suggest that there is more monopoly at lower levels of government.

The first research question that was posed asked if there is more accountability in decentralized (local/municipal) water utilities than in centralized. From the ANOVA-analyses we can conclude that this appear to be the case; the means of accountability are higher in decentralized water utilities than in centralized, and the differences are significant. The answer to the first question would therefore be yes. Secondly, the question was posed if there is less discretion in decentralized water utilities than in centralized. Answering this question is less straightforward based on the results of this paper. Discretion only showed to differ (almost) significantly¹⁶ between groups when distinguishing between three levels of government, and then showed that there is more discretion at

¹⁶ As mentioned, significant effects are more difficult to find in small samples and non-significant results are weak evidence that no relationship exists. Sig.0.109 is therefore treated as a significant result here.

municipal level than at state level but less at municipal level than at village level. Results thus suggest an ambivalent answer to the second research question. Finally, the question was posed if decentralized water utilities are less subject to monopolies than centralized. Again, this question cannot be answered with certainty as no results have showed to be significant. Yet, the non-significant results show higher means at lower levels of government, except from municipal level showing a slightly higher mean than state level when looking at the three levels of government, and therefore suggests a positive answer; decentralized water utilities seem to be less subject to monopolies. The bottom line then, is that two out of three mechanisms that constitute the enabling environment for corruption in water services predict a lower risk for corruption in decentralized water utilities than in centralized water utilities, while one is ambivalent. The final chapter discusses whether or not we can conclude from these somewhat mixed results that decentralization is an antidote to corruption in water services.¹⁷

CONCLUSION

Motivated by the need to empirically assess the support for policy recommendations to decentralize water services, this paper has compared the enabling environment for corruption between water utilities at different levels of government. The three mechanisms of monopoly, discretion and

¹⁷ The conclusions are of course results of the data used, and a few comments should be made concerning it. Firstly, due to the difficulty of setting up a sampling frame for the population of water users the sample is not a probability sample but based on a group that was deemed an approximate miniature sample of the population. Social and economic backgrounds were taken into account and the sample therefore yet covers a wide range of different water users. The approach has been guided by the idea that for a theory-testing study it is better to examine a large number of cases than few, even if they cannot be randomly selected, as most advantages of making a large random selection are due to the large selection rather than the randomness (Esaiasson, Gilljam, Oscarsson, & Wängnerud, 2007). Yet, as the sample is not a probability sample the results of this pilot study are difficult to generalize. Secondly, as data is cross-sectional there is no comparison over time, which has implications for the chances of settling causality. Even though the respondents have based their responses on the current system and the system thus is set it is not known for how long the current system has been in place. Time may have an impact on results, as the effects of a decentralization reform are not realised overnight, and as respondents may be less knowledgeable about a new system. Arguably, this problem is equal to all four groups and should thus not make up a systematic error. On the other hand, as there has been a shift from centralization to decentralization in many places over the past decade there is a risk that decentralized systems are more often new than centralized. Further, there is a risk that the level of the institutional mechanisms has impacted the decision on whether or not to decentralize. Causality could thus run in the opposite direction – that is, the levels of the institutional mechanisms might determine the occurrence of decentralization, rather than decentralization determining the levels of the institutional mechanisms. Settling causality and the mechanisms thereof will be left to further research, while the results of this paper show covariance between the level of government and the enabling environment for corruption.

accountability have been assessed through ANOVA-analyses. Results speaking in favour of decentralization show that decentralized water utilities are perceived to experience more accountability and less monopoly than centralized water utilities, while the results are ambivalent concerning discretion. In order to conclude if this implies that decentralized water utilities provide a less corruption-favourable environment than centralized water utilities Klitgaard's formula and principal-agent theory have to be recalled. The approaches build on the assumption that monopoly, discretion and accountability are closely linked, and the mechanisms should therefore be understood with their inter-linkages taken into account. The mechanism that works to reduce the agency problem in focus of this paper is accountability, which according to the data analysis is strengthened by decentralization. Further, theory predicts that monopoly constitutes the main incentive for corrupt behaviour, and this paper has suggested that there is less monopoly in decentralized systems. The results are undetermined concerning discretion, which in combination with a monopolistic situation allows bureaucrats to exploit the monopolistic privileges. Discretion is however limited by the risk to be reviewed and therefore closely linked with accountability. If we then conclude from the findings of this paper that the risk to be reviewed is greater in decentralized systems and that a decentralized system also experiences less incentives for corrupt behaviour due to it being less subject to monopolies, the level of discretion may not make a great difference in fostering corruption. In the opposite situation however, which would be the situation that centralized systems face, discretion is a more serious issue given that there is more monopoly and less accountability. Also, even if discretion would be less in centralized systems than in decentralized ones, more monopoly, less discretion and less accountability would arguably still make a worse combination than the decentralized outcome (also if the decentralized system experiences more discretion). Consequently, we can conclude that decentralized water utilities provide a less corruption-favourable environment than centralized water utilities, regardless the ambivalent results of discretion.

Concluding that the findings of this paper demonstrate that decentralization work as an antidote to corruption in water services, the scholars and policymakers arguing in favour of decentralization of water services are supported. The findings also make current policy recommendations appear sensible despite the inconclusive research discourse. However, results are perhaps not as strongly in favour of decentralization as the decentralization paradigm holds. Before discussing the

implications of the results they deserve a few remarks. Firstly, within the research area that this study takes place, there are few empirical studies. This paper was therefore approached as a pilot study and limitations in data make the findings difficult to generalize. The results presented should therefore most restrictively be generalized to other contexts than that which the sample was taken from. On the other hand, as significant results based on small samples are strong evidence the small scale of the study is also its strength, and the significant results that have been presented for accountability and discretion should be taken seriously. The significant results also motivate further investigation based on larger samples. Secondly, the findings of this paper show that the risk for corruption is lower at lower levels of government, but it does not settle causality. Therefore the paper does not explicitly support the advice to undertake decentralization reform, but simply states that it is better to be decentralized. In that sense current policy recommendations that promote decentralization reform have neither been supported nor contradicted. Settling causal mechanisms was further not the aim of this paper, but previous research has been thoroughly examined and provides several likely explanations as to why decentralization would lead to less corruption. Future research will have to test if these explanations are accurate in the context of water services. The data collected for this paper contains relevant information for testing some of the proposed arguments. Adding to these queries, several questions have been provoked throughout the writing of this paper. For example, the relationship between the different levels of government as well as the type of decentralization or degree of autonomy is of interest. Many questions remain, and hopefully this paper has encouraged further research on the topic by provoking some of them.

This paper took off by acknowledging that corruption is detrimental to good water governance and that institutions, by determining the rules of the game, are essential in curbing corruption. The finding that decentralized water utilities are less favourable to corruption is therefore an important one. The results of the paper have shown that where decision-making and service delivery takes place within the political-administrative structure matters for the risk of corruption in water services. As corruption reduces the quality and quantity of water that people receive, knowledge on where the risk for corruption is least is valuable. This study has contributed with new data and empirical findings that inform us that decentralization does not seem to have the detrimental effects that one side of the inconclusive research discourse suggests. To the contrary it has delivered a first indicative analysis showing that decentralized water utilities to a greater extent than

centralized water utilities are associated with an enabling environment that limits the risk for corruption. By applying the general discourse on the relationship between decentralization and corruption to the water services, new insights have been brought to the area of water governance. Although many scholars and policy-makers previously assumed that decentralized water utilities were less prone to corruption, their theoretical assumptions have now been given empirical support. There is also one main policy implication that follows from this paper; more awareness needs to be raised concerning discretion at lower levels of government. Even though the abuse of discretionary powers is limited by accountability and competition, discretion helps to facilitate corruption. The ambivalent finding that lower levels of government may experience more discretion should therefore not be left unnoticed. Hoping that future research will bring further insight to if, how and when decentralization works as an antidote to corruption this pilot study has contributed with initial results and one feasible approach to build on.

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APPENDIX

Appendix I: Descriptives of Control Variables

	Gender		Age		Economic Proxy		Education	
N	Valid	81	Valid	78	Valid	81	Valid	81
	Missing	1	Missing	4	Missing	1	Missing	1
Mean	1.6914		1.5641		1.6173		6.2716	
Median	2.0000		2.0000		2.0000		7.0000	
Std. Deviation	0.46481		0.59412		0.48908		0.96193	
Range	1-2		1-3		1-2		1-7	