Article

Not peer-reviewed version

The Paradox of Decentralization: Impact on Corruption in Water Utilities

Jan Verwoerd *

Posted Date: 23 September 2024

doi: 10.20944/preprints202409.1652.v1

Keywords: decentralisation; corruption; water utilities; governance

 doi:10.20944/preprints202409.1652.v

Article

The Paradox of Decentralization: Impact on Corruption in Water Utilities

Jan C. Verwoerd

Independent Researcher; jancverwoerd@gmail.com

Abstract: This study examines the impact of decentralisation on corruption levels in water utilities across central India, challenging the widely held assumption that decentralisation reduces corruption. Using experience-based measures and a natural experiment approach, the research compares corruption levels between centralised and decentralised water supply agencies Madhya Pradesh and Chhattisgarh. The study employs a longitudinal survey conducted from over five years, focusing on bribery in various aspects of water service provision. Results indicate that decentralised agencies exhibit significantly higher levels of corruption compared to centralised ones, particularly in the initial stages of decentralisation. While a gradual reduction in corruption is observed over time, the difference between decentralised and centralised utilities remains significant in the medium term. These findings contradict the simplistic view of decentralisation as a cure-all for governance issues and highlight the need for a more nuanced understanding of its effects on public service provision. The study contributes to the ongoing debate on decentralisation policies and their implications for corruption in developing countries, offering valuable insights for managers.

Keywords: decentralisation; corruption; water utilities; governance

Introduction

Following the Soviet Union's decline and fall, decentralisation emerged as a popular approach and was seen as a solution to various political challenges, from managing transitions in Eastern Europe and South Africa to addressing issues in Latin America and supporting economic growth in China and India. Decentralisation attracted diverse supporters, specially those concerned about market failures, as well as various activist groups. Doubling its merits became almost unthinkable.

The high hopes placed in decentralisation partly stem from dissatisfaction with centralised governance models, which often bred corruption among officials. Arguments for decentralisation are frequently based on subjective assessments and unclear definitions. At its core, decentralisation involves transferring powers to junior levels of government. The concept is considered essential to public administration, leading to various classification systems. The most widely accepted approach categorises decentralisation into 3 types. Deconcentration transfers authority over specific functions within the government's jurisdiction. Delegation involves transferring authority for defined tasks to organisations outside direct government control. Devolution occurs when higher levels of government transfer authority to semi-independent junior levels. Literature on decentralisation typically focuses on devolution, based on the assumption that decentralised systems allow for greater citizen influence on outcomes.

While the standard decentralisation model doesn't explicitly address corruption, it is assumed that by empowering citizens, decentralisation enhances accountability and reduces corruption. Some argue that decentralising corruption could have redistributive effects, but this isn't typically used to justify decentralisation. Instead, proponents claim it will reduce corruption overall. This claim partly arises from conflating decentralisation with public participation, two distinct concepts often used interchangeably in development debates. For instance, the World Bank has suggested that

 doi:10.20944/preprints202409.1652.v

decentralisation can achieve development goals by responding to local community needs and assigning control to those with relevant information and incentives. While development professionals generally agree that beneficiary participation improves outcomes, this doesn't necessarily endorse decentralisation. Confusing these terms diminishes their individual potential.

Recent theoretical research has shifted focus from inter-jurisdictional externalities and preference heterogeneity to examining whether decentralisation can effectively discipline government officials. Some argue that local democracy allows citizens to control corruption using their knowledge of officials' behaviour. Critics counter that local levels may have fewer safeguards against corruption due to underdeveloped media and audit systems, potentially leading to clientelistic networks and elite capture. Ultimately, theory suggests that decentralisation's impact may be context-specific, making empirical assessment crucial.

Cross-country studies on decentralisation's effect on corruption have yielded mixed results. World Bank-sponsored research often finds that decentralisation reduces corruption, but these studies have been criticised for methodological issues such as confusing correlation with causality and inadequately addressing endogeneity. Other studies have found contrasting results, with some indicating that federal structures are associated with higher perceived corruption. The discrepancies in findings often stem from differences in control variables, data sources, and methodological approaches. Overall, experiential research has not provided clear direction on decentralisation's consequence on corruption, with some researchers suggesting that the relationship is not robust.

Cross-country studies face several limitations, including the problematic use of the term "sub-national government" in contexts where provinces or states may have populations larger than many countries. Additionally, these studies often fail to consider decentralisation between different levels of sub-national government. This lack of nuance can lead to flawed policy advice, as the effects of decentralisation may differ depending on the levels involved. For example, decentralisation from national to sub-national governments might promote democracy, while decentralisation to local governments could potentially weaken regional governments and consolidate central power, as seen in some autocratic regimes.

Given the limitations of cross-country studies, more localised and disaggregated empirical evidence may prove more useful. While numerous within-country studies examine decentralisation's effects on various economic and social factors, few directly address its relationship with corruption. These studis provides only a snapshot and doesn't necessarily imply that decentralisation is inherently flawed. Some researchers suggest that corruption may initially increase with decentralisation but decrease over time as local governments learn and adapt.

Measuring corruption typically involves assessing transactions, either directly or indirectly. While observational approaches would be ideal, they are rare due to the risks and logistical challenges involved. Most empirical studies rely on reports of perceived or experienced corruption. Perception-based research is common and convenient, with indices from organisations like Transparency International employed. However, this could lead to faulty conclusions, particularly in changing circumstances where increased transparency might initially appear to increase corruption. Experienced data may be more trustworthy than perception data, according to recent studies. In order to analyse the patterns that the next wave of corruption research reveals, more experience-based metrics will need to be gathered and refined.

The Setting

The study area includes all of central India's major states, Madhya Pradesh and Chhattisgarh, as well as their rural and semi-urban areas. According to India's constitution, water-related matters fall under state government jurisdiction. Water is an essential resource for many industries, including health, agriculture, tourism, inland transportation, and manufacturing. These industries also fall under the jurisdiction of the state governments. The central government's only responsibilities include working with foreign organisations and organising interstate water sharing. In actuality, the federal government is more involved because it funds state governments' initiatives for drinking

 doi:10.20944/preprints202409.1652.v

water and irrigation in significant amounts, both directly and through federal welfare programs like the employment guarantee scheme.

The financing pattern for the drinking water sector has remained relatively stable over the past two decades. Subnational governments provide 60% of the funding for new and expansion projects, the federal government contributes 35%, and the remaining 5% is provided by international aid organisations. All of the funding for O&M comes from sub-national governments. India's water supply programme is not aid-dependent, as the financial contribution from international agencies constitutes a small proportion of total sector expenditure. Consequently, policy-making is autonomous. Federal and state government officials find the aid component useful for demonstration projects, training, within the country and overseas.

The 1993 constitutional amendment in India formalised the political structure of local governments, despite the federal system having been in place for six decades. State governments are urged to transfer more responsibilities to local authorities. A significant portion of federal funding allocated to state governments is contingent upon decentralisation to local bodies. Whilst non-governmental organisations (NGOs) advocate for decentralisation, they still hold state governments answerable during emergencies, even when local authorities manage the water utility.

Methodology and Data

To investigate the effects of decentralisation, we utilise experience-based measures and examine a 'natural experiment' using the “difference-in-differences” method. Annually, the sampling frame was derived from the small towns and villages with populations surpassing 2,000. Water supply schemes in small towns and large villages functioned as first-stage units, with households serving as second-stage units. After procuring relevant information from the Public Health Engineering Departments of both state governments, villages without functional piped water supply schemes were omitted. From the refined list, 200 small towns and villages were chosen. At that juncture, 49 schemes were state government-controlled and 151 were decentralised (local government-controlled). In subsequent years, additional schemes were decentralised. This study employs data from only 122 utilities decentralised between 2007 and 2010, ensuring comparability over a shorter timeframe. Investigators catalogued houses in the same sequence as the 2001 census, or from the north-western corner of the settlement where such listings were unavailable. Households without water connections were removed from this list, and 30 households were then selected from each scheme.

Our study initially concentrated on consumers who had paid bribes in the previous year for water bill-related issues, such as reporting lower consumption or evading charges for higher-than-actual usage. We subsequently examined two smaller cohorts: consumers who required repairs in the past twelve months and cosumers needing fresh connections. Contractors involved with the construction of these schemes were also quizzed and asked whether they had paid bribes in the last twlve moths for utility-related purposes. In the interviews, the corruption-related questions were posed at the end, allowing the investigator to establish a rapport with the interviewees.

Results

The most prevalent type of bribery involves under-billing, with water-users either bribing officials to get bills of lower amount or paying bribes (or illegal gratuities) to avoid inflated bills. In many cases, the payment served both purposes. Overall, a striking 50.9% of consumers had bribed the officials of the decentralised agencies, compared to 40.9% for centralised agencies - a “statistically significant” difference. The disparity between the money given to decentralised and centralised agencies is not statistically significant. A smaller sample, focusing on consumers who required repairs in the previous year, revealed that 39.7% of the consumers had paid bribes to decentralised agencies, versus 30.4% to centralised agencies.

Concerning contractors, the fourth sample was examined. Only the incidence of bribery was noted because respondents were reluctant to provide precise amounts. The ratio of contractors who bribe decentralised utility authorities is far higher than that of contractors who bribe centralised

 doi:10.20944/preprints202409.1652.v

utility officials. We used linear multivariate regression analysis to take additional variables that may have an impact on corruption levels into consideration.

Upon examination, we find that the difference in corruption levels between decentralised and centralised utilities remains statistically significant throughout the observed period. The overall trend suggests that following decentralisation, there is an initial increase in corruption levels. However, this is followed by a subsequent decline. Notably, even in the medium term, the difference in corruption levels between decentralised and centralised utilities remains significant, suggesting a persistent effect of decentralisation on corruption patterns.

Conclusion

For quite some time, the drumbeat of decentralisation has been persistent. Developing nations have faced pressure from the intelligencia to devolve water supply provision to lower levels of government. A consensus seems to have formed among international organisations that decentralisation is beneficial for sustaining democracy and enhancing efficiency. These agencies frequently incorporate decentralisation to local governments as a condition in their projects. However, the assumption that decentralisation will reduce corruption lacks empirical support. Our research reveals that decentralisation significantly increases corruption, particularly in its initial stages, with this increase persisting over the medium term. Nonetheless, some gradual reduction in corruption over an extended period is visibe. This nuanced finding challenges the simplistic view of decentralisation as a panacea for governance issues and underscores the need for a more complex understanding of its effects on corruption in public service provision.

References

1. Asthana, A. N. (1997). Where the water is free but the buckets are empty: Demand analysis of drinking water in rural India. *Open Economies Review*, *8*(2), 137-149.
2. Asthana, A. N. (2008). Decentralization and corruption: Evidence from drinking water sector. *Public Administration and Development*, *28*(3), 181–189. https://doi.org/10.1002/pad.496
3. Arikan, G. G. (2004). Fiscal decentralisation: A remedy for corruption. International Tax and *Public Finance*, *11*(2), 175–195. https://doi.org/10.1023/B:ITAX.0000011399.00053.a1
4. Asthana, A. N. (1994). *Demand analysis in a basic needs framework: The case of rural water supply in central India*. Fordham University.
5. Asthana, A. N. (2023). Role of Mindfulness and Emotional Intelligence in Business Ethics Education. *Journal of Business Ethics Education*, *20*, 5-17.
6. Bardhan, P., & Mookherjee, D. (2006). Decentralisation, corruption and government accountability. In S. Rose-Ackerman (Ed.), *International handbook on the economics of corruption* (pp. 161–188). Edward Elgar Publishers.
7. Asthana, A. N. (2022). Impact of mindfulness on irrigation water consumption. *Frontiers in Water*, *4*. https://doi.org/10.3389/frwa.2022.1062835
8. Asthana, A. N. (2023). Wastewater Management through Circular Economy: A Pathway Towards Sustainable Business and Environmental Protection. *Advances in Water Science*, *34*(3), 87-98.
9. Bertrand, M., Duflo, E., & Mullainathan, S. (2004). How much should we trust difference-in-difference estimates? *Quarterly Journal of Economics*, *119*(1), 249–275.
10. Brennan, G., & Buchanan, J. M. (1980). *Analytical foundations of a fiscal constitution*. Cambridge University Press.
11. Asthana, A. N. (2022). Contribution of Yoga to Business Ethics Education. *Journal of Business Ethics Education*, *19*, 93-108.
12. Centre for Monitoring Indian Economy. (2024). *Review of Madhya Pradesh and Chhattisgarh Economy*. CMIE.

 doi:10.20944/preprints202409.1652.v

13. Crook, R. C., & Manor, J. (1998). *Democracy and decentralisation in South Asia and West Africa: Participation, accountability and performance*. Cambridge University Press.
14. Dubois, H. F. W., & Fattore, G. (2009). Definitions and typologies in public administration research: The case of decentralisation. *International Journal of Public Administration*, *32*(8), 704–727. https://doi.org/10.1080/01900690902908760
15. Dunning, T. (2008). Improving causal inference: Strengths and limitations of natural experiments. *Political Research Quarterly*, *61*(2), 282–293. https://doi.org/10.1177/1065912907306470
16. Enikolopov, R., & Zhuravskaya, E. (2007). Decentralization and political institutions. *Journal of Public Economics*, *91*(11–12), 2261–2290. https://doi.org/10.1016/j.jpubeco.2007.02.006
17. Estache, A., & Sinha, S. (1995). Does decentralization increase public infrastructure expenditure? In A. Estache (Ed.), *Decentralizing infrastructure: Advantages and limitations* (pp. 63–80). World Bank.
18. Fan, C. S., Lin, C., & Treisman, D. (2009). Political decentralisation and corruption: Evidence around the world. *Journal of Public Economics*, *93*(1–2), 14–34. https://doi.org/10.1016/j.jpubeco.2008.09.001
19. Fisman, R., & Gatti, R. (2002). Decentralization and corruption: Evidence across countries. *Journal of Public Economics*, *83*(3), 325–345. https://doi.org/10.1016/S0047-2727(00)00158-4
20. Goldsmith, A. A. (1999). Slapping the grasping hand: Correlates of political corruption in emerging markets. *American Journal of Economics and Sociology*, *58*(4), 865–886. https://doi.org/10.1111/j.1536-7150.1999.tb03398.x
21. Haidar, M., & Badami, M. G. (2010). Urbanization and local governance challenges in Pakistan. *Environment and Urbanization ASIA*, *1*(1), 81–96. https://doi.org/10.1177/097542530900100107
22. Inman, R. P., & Rubinfeld, D. L. (1997). Rethinking federalism. *Journal of Economic Perspectives*, *11*(4), 43–64.
23. Kunicová, J., & Rose-Ackerman, S. (2005). Electoral rules and constitutional structures as constraints on corruption. *British Journal of Political Science*, *35*(4), 573–606. https://doi.org/10.1017/S0007123405000311
24. Lederman, D., Loayza, N. V., & Soares, R. R. (2005). Accountability and corruption: Political institutions matter. *Economics and Politics*, *17*(3), 1–35. https://doi.org/10.1111/j.1468-0343.2005.00145.x
25. Asthana, A. N. (2010). Descentralización y necesidades básicas. *Politai*, *1*(1), 13-22.
26. Lessmann, C., & Markwardt, G. (2010). One size fits all? Decentralization, corruption, and the monitoring of bureaucrats. *World Development*, *38*(4), 631–646. https://doi.org/10.1016/j.worlddev.2009.11.003
27. Manzetti, L., & Wilson, C. J. (2007). Why do corrupt governments maintain public support? *Comparative Political Studies*, *40*(8), 949–970. https://doi.org/10.1177/0010414005285759
28. McGuire, J. M. (2010). *Decentralization for satisfying basic needs* (2nd ed.). IAP.
29. McMillan, J., & Zoido, P. (2004). How to subvert democracy: Montesinos in Perú. *Journal of Economic Perspectives*, *18*(4), 69–92. https://doi.org/10.1257/0895330042632690
30. Asthana, A. N. (2023). Prosocial behavior of MBA students: The role of yoga and mindfulness. *Journal of Education for Business*, *98*(7), 378-386.
31. Madhya Pradesh Human Rights Commission. (2023). *The report of the Madhya Pradesh Human Rights Commission on drinking water*. Government Press.
32. Olken, B. A. (2009). Corruption perceptions vs corruption reality. *Journal of Public Economics*, *93*(7–8), 950–964. https://doi.org/10.1016/j.jpubeco.2009.03.001
33. Olken, B. A., & Barron, P. (2009). The simple economics of extortion: Evidence from trucking in Aceh. *Journal of Political Economy*, *117*(3), 417–452. https://doi.org/10.1086/599707
34. Platteau, J.-P. (2004). Monitoring elite capture in community-driven development. *Development and Change*, *35*(2), 223–246. https://doi.org/10.1111/j.1467-7660.2004.00350.x

 doi:10.20944/preprints202409.1652.v

35. Asthana, A. N. (2014). Thirty years after the cataclysm: toxic risk management in the chemical industry. *Journal of Toxicological Sciences*, *6*(1), 01-08.
36. Prud'homme, R. (1995). The dangers of decentralization. *World Bank Research Observer*, *10*(2), 201–220. https://doi.org/10.1093/wbro/10.2.201
37. Seabright, P. (1996). Accountability and decentralization in government: An incomplete contract model. *European Economic Review*, *40*(1), 61–89. https://doi.org/10.1016/0014-2921(95)00055-0
38. Asthana, A. N. (2013). Who Do We Trust for Antitrust? Deconstructing Structural IO. *World Applied Sciences Journal*, *22*(9), 1367-1372.
39. Snow, J. (1855). *On the mode of communication of cholera* (2nd ed.). John Churchill.
40. Asthana, A. N. (2014). Voluntary Sustainability Standards in Latin American Agribusiness: Convergence and Differentiation. *American-Eurasian Journal of Agricultural & Environmental Sciences*, *14*(11), 1262-1274.
41. Asthana, A. N. (2013). Profitability Prediction in Agribusiness Construction Contracts: A Machine Learning Approach. *American-Eurasian Journal of Agricultural & Environmental Sciences*, *13*(10), 1314-1324
42. Treisman, D. (2000). The causes of corruption: A cross-national study. Journal of Public Economics, *76*(3), 399–457. https://doi.org/10.1016/S0047-2727(99)00092-4
43. Treisman, D. (2006). Explaining fiscal decentralisation: Geography, colonial history, economic development and political institutions. *Commonwealth & Comparative Politics*, *44*(3), 289-325.
44. Treisman, D. (2007). What have we learned about the causes of corruption from ten years of cross-national empirical research? *Annual Review of Political Science*, *10*, 211–244. https://doi.org/10.1146/annurev.polisci.10.081205.095418