

Article

Not peer-reviewed version

Decentralisation, Human Resource Development, and Efficiency in Water Utilities

[Carlos Gonzales](#) *

Posted Date: 5 March 2026

doi: 10.20944/preprints202603.0398.v1

Keywords: decentralisation; human resource development; water utilities; operational efficiency; vocational training



Preprints.org is a free multidisciplinary platform providing preprint service that is dedicated to making early versions of research outputs permanently available and citable. Preprints posted at Preprints.org appear in Web of Science, Crossref, Google Scholar, Scilit, Europe PMC.

Copyright: This open access article is published under a [Creative Commons CC BY 4.0 license](#), which permit the free download, distribution, and reuse, provided that the author and preprint are cited in any reuse.

Disclaimer/Publisher's Note: The statements, opinions, and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions, or products referred to in the content.

Article

Decentralisation, Human Resource Development, and Efficiency in Water Utilities

Carlos Gonzales

Independent Researcher; carlosmarcosperu@gmail.com

Abstract

This paper examines the relationship between decentralisation, human resource development (HRD), and operational efficiency in water utilities managed by state and local governments across Madhya Pradesh, Chhattisgarh, and Jharkhand, India. Drawing on a random sample of 200 towns and villages, the study quantifies how decentralisation influences HRD investment and how both variables jointly shape service delivery outcomes. The findings challenge the widely held assumption — promoted by international donors and development institutions — that devolving authority to lower tiers of government inherently improves public service performance. Results indicate that decentralisation, as practised in India's drinking water sector, does not enhance operational efficiency. Instead, vocational training — the primary measure of HRD employed here — emerges as the principal driver of improved performance. Since decentralisation is negatively correlated with HRD investment, transferring authority without commensurate workforce development commitments risks compounding existing inefficiencies rather than resolving them.

Keywords: decentralisation; human resource development; water utilities; operational efficiency; vocational training

1. Introduction

For more than four decades, the push towards devolving power has gathered momentum. Developing nations have faced mounting pressure — both from international donors and their own urban ruling classes — to hand over responsibility for essential services such as potable water to municipal authorities. A broad agreement has taken hold amongst global institutions that transferring authority away from central governments strengthens democratic governance whilst simultaneously boosting service delivery. Such bodies have, on occasion, made this a non-negotiable requirement for receiving project funding. The enthusiasm for devolution appears to be rooted, at least in part, in the widely documented failures of centralised planning under command economies and authoritarian regimes. A further explanation lies in the scarcity of rigorous comparative research on relative effectiveness, leaving the discourse reliant on anecdotal judgements in which the very concept of power-sharing remains loosely and inconsistently defined.

Decentralisation refers to the transfer of powers, functions or responsibilities from a central authority to sub-national or local (lower) levels of government or non-governmental entities. It is one of the most debated concepts in public administration and development studies (Dubois & Fattore, 2009). Deconcentration, delegation, and devolution are the three categories into which decentralisation is most commonly divided in the literature (Brennan & Buchanan, 1980). The transfer is called deconcentration. Providing administrative fiat authority over certain management functions to various levels under the government's jurisdictional authority. The transfer of authority for precisely defined duties to groups that are not directly under the government's jurisdiction is commonly referred to as delegation. When a higher level of government transfers power to independent lower levels through by law, this is known as devolution.

Though decentralisation and public participation are distinct concepts, development discourse frequently treats them as synonymous. The World Bank, for instance, suggests that devolving

decision-making authority to local actors can advance development objectives by placing control in the hands of those most familiar with community needs and most accountable for the consequences. Beyond institutional rhetoric, even scholarly works in the water sector fail to draw a sufficiently clear line between the two ideas. Practitioners in the water field broadly acknowledge that involving intended beneficiaries tends to improve outcomes, and research from bodies such as the US Army Corps of Engineers illustrates how attitudes towards participation have shifted over the decades — moving from viewing it as a mere inconvenience towards recognising it as a vehicle for genuine, values-driven consensus. At its core, meaningful participation depends on transparent access to information and genuine empowerment of communities. Nevertheless, none of this justifies treating participation as equivalent to decentralisation. The two concepts are fundamentally distinct, and blurring the boundary between them ultimately diminishes the value of both.

Debates around decentralisation are largely centred on devolution — a process that finds justification in both political and economic reasoning. Advocates, including major international bodies, typically argue that authority should be transferred as far down the governmental hierarchy as practically feasible, with exceptions only where issues such as externalities, cost recovery, or technical complexity make this unrealistic. The underlying assumption is that dispersed political structures are more likely to give citizens genuine influence over governance outcomes. Arguments for shifting power from central to sub-national authorities carry particular weight in contexts where authoritarian regimes have historically concentrated control; in this sense, decentralisation is often associated with democratisation.

From an economic standpoint, interest in decentralisation stems largely from the expectation of welfare improvements through greater allocative efficiency. The reasoning holds that the optimal supply of locally consumed goods — where the collective marginal benefit to residents equals the marginal cost — will differ between areas due to variations in both preferences and costs. Because information is unevenly distributed across levels of government, local authorities are generally thought to be better positioned than regional or national bodies to deliver services that reflect the specific needs and preferences of their populations.

More recently, however, it has become apparent that many developing countries fail to satisfy the foundational assumptions of this classical framework. In such contexts, the priority is rarely to accommodate subtle differences in local preferences; rather, it is to meet pressing basic needs — access to safe drinking water being a clear example — which are already well understood. The body of empirical research examining whether local governance actually leads to more efficient resource allocation has grown considerably, yet it has not yielded straightforward conclusions about the capacity of decentralisation to promote social development or to respond effectively to community needs through efficiency mechanisms.

Beyond allocative efficiency, the conventional argument for decentralisation as an organising principle rests on the idea that it brings government into closer proximity with citizens, thereby enabling greater accountability amongst those in leadership positions. In the specific case of water supply, it is further contended that provision at one location is largely independent of provision elsewhere, meaning that any efficiency losses arising from reduced economies of scale would be relatively modest.

This article investigates decentralisation and HRD in water utilities operating under state and local government management in India. By examining how decentralisation influences HRD, and how both decentralisation and HRD in turn affect operational efficiency, it aims to shed light on the mechanism linking decentralisation to performance outcomes. Earlier research on this topic identified lower efficiency in decentralised utilities and tentatively attributed this to inadequate HRD, though largely on the basis of informal evidence. The present study builds on this work by more rigorously measuring the effects of decentralisation on HRD, and of both variables on the water supply systems.

Decentralisation and public participation, though distinct concepts within the social sciences, are frequently conflated in development discourse. The World Bank (2000), for instance, suggests that

transferring decision-making authority to those closest to local needs can be an effective mechanism for achieving development objectives, as such individuals possess both the relevant knowledge and accountability for outcomes. Beyond institutional rhetoric, scholarly work in the water sector (Araral, 2010; Tankha & Fuller, 2010) similarly fails to draw a clear boundary between the two ideas. Among water management practitioners, there is broad consensus that involving intended beneficiaries leads to better outcomes. Research from the US Army Corps of Engineers (Creighton et al., 1992, 1998) and Delli Priscoli (2009) traces how attitudes towards participation have shifted considerably, moving from viewing it as an inconvenience to recognising it as a foundation for value-driven consensus. Ultimately, meaningful participation requires both transparency of information and genuine empowerment of communities (Delli Priscoli & Wolf, 2009). Nevertheless, this does not make participation synonymous with decentralisation. Treating the two as equivalent diminishes the analytical value of each.

The literature on decentralisation is predominantly concerned with devolution, which is advocated. Those who champion decentralisation, including major international bodies, argue that authority should be transferred to the lowest feasible tier of government, unless externality, cost recovery or technical constraints make this impractical. The underlying assumption is that dispersed political structures allow citizens greater influence over governance outcomes. The political case for shifting power from central to sub-national governments is particularly compelling given that authoritarian regimes tend to consolidate control centrally. In this sense, decentralisation is broadly understood as a vehicle for democratic governance.

The economic rationale for growing interest in decentralisation lies in the potential for welfare improvements through more efficient resource allocation. The allocative efficiency argument holds that the optimal provision level for a locally consumed good, where the aggregate of residents' marginal benefits corresponds to marginal cost, will differ between jurisdictions owing to variations in both preferences and costs (Oates, 2006). Because information asymmetries exist across administrative levels, local authorities are generally considered better equipped than regional or national governments to tailor public goods and services to the specific preferences of their beneficiaries.

More recently, however, it has become apparent that developing countries rarely satisfy the conditions, whether stated or implied, that underpin the classical decentralisation framework. In these contexts, the challenge is less about capturing subtle variations in preferences across localities and more about meeting fundamental needs, such as provision of safe drinking water, which are already well understood. The body of empirical work examining whether local government distributes resources more effectively has expanded rapidly alongside the theoretical literature on allocative efficiency. Nevertheless, taken collectively, these studies do not yield straightforward conclusions regarding the capacity of decentralisation to advance social development or to better reflect local priorities through the lens of allocative efficiency.

Although the conventional model of decentralisation offers limited commentary on production efficiency, the general expectation is that it brings governance into closer proximity with citizens and strengthens their capacity to hold decision-makers to account (McGuire, 2010). It is further argued that for services such as water supply, provision in one location has little bearing on provision elsewhere, meaning that any welfare losses attributable to forgone economies of scale would be negligible.

Recently, there has been growing acknowledgment that developing nations fail to satisfy most of the stated or unstated conditions underlying the classical model. Rather than attempting to identify subtle distinctions in preferences across jurisdictions, the priority in these countries is to fulfil fundamental requirements, such as access to clean drinking water, which are already broadly understood. The body of empirical research examining whether local governance leads to more effective resource distribution has expanded considerably, with hundreds of studies now in existence, outpacing even the theoretical scholarship on allocative efficiency. Nevertheless, when

considered collectively, these empirical investigations offer little definitive guidance regarding the prospects of decentralisation for advancing social development.

Although the conventional decentralisation framework has not much to say about production efficiency, the underlying premise is that decentralisation, as a governing principle, narrows the distance between state institutions and citizens, enabling people to exercise greater oversight over their elected or appointed leaders (McGuire, 2010). A further contention holds that for services such as water supply, provision at one location bears no particular relationship to provision elsewhere, meaning that any welfare costs arising from forgone economies of scale would be negligible.

Through an examination of efficiency and HRD in water utilities administered by both state and local governments across India, and by assessing how decentralisation influences HRD and how both decentralisation and HRD together shape outcomes, this paper aims to shed light on the pathway through which decentralisation exerts its effects on efficiency. Prior scholarship on this topic (Khellaf, 1992; Prud'homme, 1995), whilst documenting comparatively weaker efficiency in decentralised water utilities, has drawn on anecdotal evidence to suggest that insufficient investment in HRD may account for these shortfalls. The present article advances this line of inquiry by quantifying the influence of decentralisation on HRD and the combined bearing of decentralisation and HRD on the systems.

2. HRD in the Water Sector

It has long been recognised that achieving access to clean drinking water requires reforms to place the workforce at their core (Pickford, 1991). Building robust managerial frameworks forms the bedrock of sustainable water resource management and service delivery. Nevertheless, the consequences of decentralisation for human resource development (HRD) remain insufficiently examined and poorly comprehended.

The process of decentralisation shifts authority and accountability from central administrations to local ones. Although public sector performance in developing countries already falls considerably short of optimal technical efficiency, there is considerable reason to suppose that local administrations lag even further behind than their central or regional counterparts. Across much of the developing world, federal and state governments invest minimally in technology, research, innovation and HRD, whilst local governments allocate virtually nothing to these areas. This pattern holds even in comparatively forward-thinking states such as Karnataka in India (Saleth & Sastry, 2004).

Despite international organisations continuing to advocate for the decentralisation of public service provision with little consideration of its implications for HRD and operational efficiency, a number of studies suggest that decentralisation may in fact erode efficiency through the neglect of HRD. Some studies drawn from the water and sanitation sector are particularly noteworthy. A World Bank (1990) report on water supply and sanitation in Peru, whilst characterising decentralisation as a welcome development on the grounds that it brings accountability closer to service users, openly acknowledged that the management of services across more than four hundred urban centres with populations below hundred thousand presented serious difficulties. These towns are ill-equipped to provide competitive working conditions or vocational training to skilled personnel, and struggle to maintain water and sanitation operations at an acceptable standard. Within the following two to three years, the report projected that the response capacity of the reformed sector would deteriorate further still.

Water management in Tunisia offers a pertinent case study, where the consolidation of water supply infrastructure prompted the development of structured training initiatives, ultimately producing a skilled workforce of technical specialists. According to Khellaf (1992), the gradual enhancements in service delivery cannot be credited to centralisation alone, but rather to more efficient administrative processes and human resource development achieved through systematic staff training.

Within the water sector, human resource development is frequently regarded as the cornerstone of capacity building, encompassing a broad range of competencies from technical research to the formulation of policy. Nevertheless, it is vocational training that bears the greatest relevance to operational efficiency, given that technicians bear direct responsibility for running, fixing and maintaining infrastructure. Their preparation must extend beyond present-day requirements, equipping them to respond effectively to future challenges. This encompasses those who manage water purification facilities, individuals overseeing water provision at community level, personnel conducting quality assessments, and those handling financial administration and record-keeping. Sustained professional development through ongoing vocational education remains the most reliable means of ensuring that those working in the water sector remain conversant with emerging trends and technological advances shaping the industry.

3. The Setting

India's constitutional framework assigns responsibility for water management to individual states, which also retain jurisdiction over interconnected sectors such as healthcare, farming, manufacturing, inland navigation and leisure industries. Whilst the central government is nominally restricted to crafting national water and environmental policies and mediating disputes between states over shared water resources, its practical influence is considerably broader. This expanded role stems from the substantial financial transfers it makes to states for irrigation and potable water infrastructure, channelled both directly and through centrally-sponsored welfare programmes such as employment guarantee initiatives.

The funding structure of the drinking water sector has remained broadly unchanged over the past twenty years. Capital expenditure on new projects and capacity expansion is split between state governments (60%), the central government (35%) and multilateral development agencies (5%). Routine maintenance and operational costs are borne entirely by state governments. Because external financing constitutes only a marginal share of total sector expenditure, India retains full autonomy over its policy decisions in this field. Central and state officials nonetheless regard the contribution from international bodies as valuable for pilot demonstrations, capacity-building exercises and overseas learning visits. These agencies are further recognised as a repository of knowledge and expertise.

Although India's federal architecture has existed for roughly six decades, the constitutional amendment of 1993 formally enshrined local governance as a distinct tier of the political system. States are progressively urged to delegate functions downward to local bodies, and a significant portion of central transfers to states in the drinking water sector is conditional upon such devolution. Under numerous programmes, including employment guarantee schemes, states retain regulatory authority whilst transferring service delivery to local governments. In certain instances, such as the building of piped water networks, a local body may borrow from a public financial institution and, lacking in-house capacity, commission a state agency to do the work on a contract basis. Operational and maintenance responsibilities for publicly built infrastructure ordinarily remain with the level of government that built it, leaving regulatory and delivery functions combined rather than separated.

Every state government has expressed commitment to handing over the operation and maintenance of drinking water schemes to local bodies, yet this has not been fully realised. The primary obstacle is the reluctance of local bodies to assume responsibility for utilities that are unlikely to generate any financial surplus. Even in areas where decentralised management has been introduced, states continue to offer financial and logistical support to strengthen local administrative capacity, though local bodies do not consistently avail themselves of this assistance.

This research examines large villages as also small towns across 3 major central and eastern states of India, namely Madhya Pradesh, Chhattisgarh and Jharkhand. Collectively, these states span approximately 523,000 square kilometres and are home to around 93 million people. Roughly 85% of the rural and semi-urban population is served by piped water, either through direct household connections or conveniently located communal standposts. Communities on the outskirts of

settlements that remain unserved rely on handpumps or sources that may be unsafe for consumption. Vending of water is not a common practice in the study area. Even households with piped connections or proximity to standposts frequently draw on supplementary sources, given that piped supply is offered for only a limited number of hours each day.

Non-governmental organisations generally support decentralisation in principle, yet continue to hold state governments accountable when a crisis arises, regardless of whether the utility concerned is under local government control. Human rights bodies at both central and state levels have grown more assertive since the UN has affirmed that the human right to water entitles every person to water that is sufficient, safe, acceptable, physically accessible and affordable for personal and domestic purposes. These commissions attribute responsibility for rights violations to the relevant state government whenever a water utility, fails to deliver an adequate service. When a locally managed utility breaks down, the state government is compelled in practice to intervene, effectively recentralising operations for the duration of the crisis. In several documented cases where states showed reluctance to assume control of a failing system, the judiciary directed them to do so on the grounds of their duty to safeguard citizens' welfare. The consequence is that local bodies are not subject to meaningful fiscal discipline, as a financial rescue from a higher tier of government remains available.

4. Methodology

4.1. Data

This research utilised information gathered through a broad survey addressing topics beyond merely decentralisation and HRD. Settlements listed in the 2001 census -- specifically those exceeding 2,000 inhabitants -- formed the basis for selecting the study sample. India's statistical infrastructure was considered sufficiently trustworthy for this purpose, given the country's established and politically neutral approach to data collection, which distinguishes it from numerous developing nations. Although systematically published data remain scarce, whether through official websites or printed reports, researchers can generally access figures held by government bodies at both federal and state levels, as the private sector plays a negligible role in supplying such information.

Relevant records were sourced directly from the Water supply Departments across the 3 state governments involved. Settlements lacking an operational piped water supply were subsequently excluded. Remaining locations were used to draw a sample of 200 towns and villages through random selection, following the probability-proportional-to-population approach employed by India's National Sample Survey Organisation, whose established methodology served as the template for this procedure.

4.2. Variables and Scaling

For the purpose of appropriate scaling, annual production has been standardised to units of 1,000 L. A regression analysis of the expense ratio against production per year reveals statistically significant inverse relationship, confirming the presence of scale economies. The asset utilisation ratio similarly demonstrates a negative association with annual production when subjected to regression analysis ($t = 2.1$). Comparable findings emerged when both were tested against the natural logarithm of annual production. Following the diagnostic procedures outlined by Bera & Jarque (1982) and the MWD test (MacKinnon et al., 1983), the logarithmic transformation of annual production was identified as the more suitable specification. Consequently, this transformed measure serves as the proxy for firm size throughout the analysis.

The financing variables are constructed around debt, given the well-established role of external lenders in improving managerial efficiency through monitoring. This line of enquiry, originating with Diamond (1984) and Fama (1985) and subsequently advanced by Diamond (1991), Rajan (1992) and Chava & Roberts (2008), highlights two distinct aspects of debt: its magnitude and its maturity profile. Macaulay's duration, which approximates average repayment horizon, captures the latter dimension.

Both a higher ratio of debts to assets and a longer duration are associated with stronger incentives for creditors to oversee managerial conduct. In keeping with established financial literature, the ratio of debts to assets as also duration are therefore incorporated as financing variables.

The role of human resource development in determining productive efficiency is examined through the lens of vocational training. Workplace-based training opportunities are limited, necessitating off-site attendance for most employees. Expenditure on training could not be reliably quantified, largely because a substantial proportion was delivered at no cost through the central and state programmes. The training variable is therefore operationalised as the average number of training days per employee annually.

However, because decentralisation affects training, it may also have an indirect impact on supply efficiency. The sum of the effects of decentralisation is its overall impact. Prior to implementing the model, we took subjectivity, joint determination, and causality into consideration.

6. Results and Discussion

We find that the decentralisation coefficient is very important. Its worth, however, does not fully capture the effects of decentralisation, which in our model also operates through HRD. Surface water schemes have a higher expense ratio than ground water schemes. As anticipated, economies of scale are indicated by the utility size coefficient, which is negative. It was determined that the utility age coefficient was not significant. Finance-related factors turned out to be negligible, which was unexpected.

Utility size does not have a significant coefficient. Once more, neither of the two finance variables are significant to us. Better asset utilisation by trained staff is shown by the training variable, which is positive. According to findings on water quality factors, larger, newer utilities and those that use ground water have superior water quality. Surprisingly, the decentralisation variable did not demonstrate significance, nor did the funding variables. However, this does not imply that there is no certainty on the impact of decentralisation on water quality. The training variable, which we find to be important at the 1% level, is how decentralisation operates.

In the instance of decentralisation from national to sub-national authority, political grounds seem to be compelling. Democracy may not always be promoted when duties are decentralised from one level of subnational government to a lower level. The belief that decentralisation is what the people want is unfounded. Military dictatorships and other autocracies frequently give local governments more authority, which weakens regional (state or provincial) administrations and prevents them from challenging the central government. For instance, if a military dictatorship takes control of adjacent Pakistan, local government is given more authority and responsibility; however, this is reversed when a democratic government takes control again (Haidar & Badami, 2010).

Even ardent supporters of decentralisation have cautioned that we shouldn't idealise the village community (Petrella, 2001), but some empirical evidence supports the idea that beneficiary participation at different stages of the drinking water projects could improve efficiency (Isham et al., 1995). The local government cannot disregard the pressures of caste, and tribe. The local elite frequently manipulates devolved resources to appease its client networks (Manzetti & Wilson, 2007). One frequently encounters a scenario where "I decide; you participate" is used in place of "voice and choice." Elite capture is a frequent occurrence when the decentralisation process is political rather than participatory (Platteau, 2004).

The lack training of local government officials is not due to a lack of funding for training. Diseconomy of scale is a further factor. Local governments are reluctant to send technicians out for training, and it is difficult to provide on-the-spot training. The case studies show that training was not a major concern for local officials. The case studies also supported the conclusions of numerous other research (e.g. Narayana, 2005) that local government executives have significantly lesser educational backgrounds than their state counterparts. Bardhan (2002) asserts that the decentralisation literature generally makes the assumption that leaders at various governmental levels possess comparable levels of capability, which is untrue in developing nations.

Decentralisation and privatisation are frequently used interchangeably in certain international bodies that advocate for structural adjustment and transitional reform (Wilder & Lankao, 2010). Although the benefits of privatisation vary depending on the situation, violent resistance is always a possibility. Only a few tiny industrial regions in India have been privatised. The possibility of privatisation has not been discussed, even with regard to cities, due to a lack of political agreement and a desire for social strife. There is no chance that water services in small towns or villages will be privatised.

Currently, the majority of developing nations lack a long-term, workable plan for decentralisation and human resource development. The metropolitan elite and the donor community are exerting unrelenting pressure to decentralise. It appears that decentralisation does not provide greater water delivery efficiency. Rather, the HRD, which has a negative correlation with decentralisation, appears to be a major factor in the rise in efficiency. Although it makes intuitive sense, the notion that a government that is "closer to the people" will offer better water supply fails the empirical validity test.

7. Conclusion

This study has examined the relationship between decentralisation, human resource development, and operational efficiency in water utilities across Madhya Pradesh, Chhattisgarh, and Jharkhand. The findings challenge the prevailing orthodoxy promoted by international donors and development institutions that decentralisation inherently improves public service delivery.

The evidence presented here suggests that decentralisation, as currently practised in India's drinking water sector, does not yield greater operational efficiency. Rather, it is HRD, and vocational training in particular, that serves as the primary driver of improved performance. Critically, decentralisation is negatively correlated with HRD investment, creating a compounding disadvantage: as authority is transferred to lower tiers of government, the capacity to develop and retain skilled personnel diminishes accordingly.

Local governments face structural barriers that their state-level counterparts do not. Diseconomies of scale make off-site training logistically difficult; elected officials prioritise immediate service concerns over longer-term workforce development; and the educational backgrounds of local administrators tend to be considerably weaker than those at state level. Elite capture and political patronage further distort how devolved resources are allocated.

These findings carry important implications for policy. The assumption that governance which is "closer to the people" will automatically produce better outcomes does not withstand empirical scrutiny. Future decentralisation programmes should be accompanied by robust, ring-fenced commitments to HRD, alongside realistic assessments of local administrative capacity. Without such safeguards, the transfer of authority risks transferring inefficiency rather than improving it.

References

- 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.
- Brennan, G., & Buchanan, J. M. (1980). *Analytical foundations of a fiscal constitution*. Cambridge University Press.
- World Bank. (2000). *World development report 2000/2001: Attacking poverty*. World Bank.
- Araral, E. (2010). Reform of water institutions: Review of evidences and international experiences. *Water Policy*, 12(s1), 8–22.
- Asthana, A. N. (2012). Decentralisation, HRD and production efficiency of water utilities: evidence from India. *Water Policy*, 14(1), 112–126.
- Asthana, A. N. (2010). Descentralización y necesidades básicas. *Polítai*, 1(1), 13–22.
- Tankha, S., & Fuller, B. (2010). Getting things done: Bureaucratic and entrepreneurial approaches to the practice of participatory water management reforms in Brazil and India. *Water Policy*, 12(s1), 84–103.

- Creighton, J. L., Delli Priscoli, J., & Dunning, C. M. (Eds.). (1992). *Public involvement techniques: A reader of ten years experience at the Institute for Water Resources* (IWR Research Report 82-R-1). US Army Corps of Engineers, Institute for Water Resources.
- Creighton, J. L., Delli Priscoli, J., Dunning, C. M., & Ayres, D. (Eds.). (1998). *Public involvement and dispute resolution---Volume 2: A reader covering the second decade of experience at the Institute for Water Resources* (IWR Report 98-R-5). US Army Institute for Water Resources.
- Asthana, A. N. (2008). Decentralisation and corruption: Evidence from drinking water sector. *Public Administration and Development*, 28(3), 181–189. <https://doi.org/10.1002/pad.496>
- Asthana, A. N. (2003). Decentralisation and supply efficiency: the case of rural water supply in Central India. *Journal of Development Studies*, 39(4), 148–159.
- 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.
- Delli Priscoli, J. (2009). Evolution of public involvement in water planning. In C. S. Russell & D. D. Baumann (Eds.), *The evolution of water resource planning and decision making* (pp. 62–79). Edward Elgar.
- Delli Priscoli, J., & Wolf, A. T. (2009). *Managing and transforming water conflicts*. Cambridge University Press.
- Asthana, A. N. (2012). Decentralisation and corruption revisited: Evidence from a natural experiment. *Public Administration and Development*, 32(1), 27–37. <https://doi.org/10.1002/pad.621>
- Oates, W. E. (2006). The many faces of the Tiebout model. In W. Fischel (Ed.), *The Tiebout model at fifty: Essays in public economics in honor of Wallace Oates* (pp. 28–45). Lincoln Institute of Land Policy.
- McGuire, J. M. (2010). *Decentralization for satisfying basic needs* (2nd ed.). IAP.
- Khellaf, A. (1992). *Decentralization and centralization of local public services in Tunisia* [Doctoral dissertation, Massachusetts Institute of Technology].
- Prud'homme, R. (1995). The dangers of decentralization. *World Bank Research Observer*, 10(2), 201–220.
- Asthana, A. N. (1997). *Household choice of water supply systems*. Loughborough University.
- Asthana, A. (2013). Decentralisation and supply efficiency: Evidence from a natural experiment. *International Development Planning Review*, 35(1), 67–86.
- Pickford, J. (1991). Training and human resource development in water supply and sanitation. *Water International*, 16(3), 169–175.
- Saleth, R. M., & Sastry, G. S. (2004). Water supply and sanitation sector of Karnataka, India: Status, performance and change. *Water Policy*, 6(3), 161–183.
- Asthana, A. N. (2004). Corruption and decentralisation: evidence from India's water sector. *Loughborough University*.
- World Bank. (1990). *Perú: Water sector reform and investment review*. World Bank.
- Bera, A. K., & Jarque, C. M. (1982). Model specification tests: A simultaneous approach. *Journal of Econometrics*, 20(1), 59–82.
- Asthana, A. N. (2011). The business of water: fresh perspectives and future challenges. *African Journal of Business Management*, 5(35), 13398–13403.
- Asthana, A. N. (1994). *Demand analysis in a basic needs framework: The case of rural water supply in central India*. Fordham University.
- MacKinnon, J., White, H., & Davidson, R. (1983). Tests for model specification in the presence of alternative hypothesis: Some further results. *Journal of Econometrics*, 21(1), 53–70.
- Diamond, D. W. (1984). Financial intermediation and delegated monitoring. *Review of Economic Studies*, 51(3), 393–414.
- Asthana, A. (2003). Water: Perspectives, Issues, concerns. *Journal of Development Studies*, 39(6), 188–189.

- Asthana, A. (2003). Decentralisation and supply efficiency of RWS in India. Loughborough University.
- Asthana, A. N. (1995). Demand analysis of RWS in Central India. *Loughborough University*.
- Fama, E. F. (1985). What's different about banks? *Journal of Monetary Economics*, 15(1), 29–39.
- Diamond, D. W. (1991). Monitoring and reputation: The choice between bank loans and directly placed debt. *Journal of Political Economy*, 99(4), 689–721.
- Rajan, R. G. (1992). Insiders and outsiders: The choice between informed and arm's length debt. *Journal of Finance*, 47(4), 1367–1400.
- Chava, S., & Roberts, M. R. (2008). How does financing impact investment? The role of debt covenants. *Journal of Finance*, 63(5), 2085–2121.
- Haidar, M. G., & Badami, M. G. (2010). Urbanization and local governance challenges in Pakistan. *Environment and Urbanization Asia*, 1(1), 81–96.
- Asthana, A. N. (2010). Is participatory water management effective? Evidence from Cambodia. *Water Policy*, 12(2), 149–164.
- Petrella, R. (2001). *The water manifesto*. Zed Books.
- Isham, J., Narayan, D., & Pritchett, L. (1995). Does performance improve performance? Establishing causality with subjective data. *World Bank Economic Review*, 9(2), 175–200.
- Manzetti, L., & Wilson, C. J. (2007). Why do corrupt governments maintain public support? *Comparative Political Studies*, 40(8), 949–970.
- Platteau, J.-P. (2004). Monitoring elite capture in community-driven development. *Development and Change*, 35(2), 223–246.
- Narayana, D. (2005). Local governance without capacity building. *Economic and Political Weekly*, 40(26), 2822–2832.
- Asthana, A. N. (2009). What determines access to subsidised food by the rural poor? Evidence from India. *International Development Planning Review*, 31(3), 263–279.
- Akram, T., & Asthana, A. (1993). The Green Revolution and Economic Development-The process and its Impact in Bangladesh-Alauddin, M, Tisdell, C. *Kyklos*, 46(3), 424–425.
- Bardhan, P. (2002). Decentralization of governance and development. *Journal of Economic Perspectives*, 16(4), 185–205.
- Wilder, S., & Lankao, P. R. (2010). Paradoxes of decentralization: Water reform and social implications in Mexico. *World Development*, 34(11), 1977–1995.

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.