

Decentralisation derailed: water governance and the persistence of inequality in South Africa

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This study examines how decentralising water resources management in South Africa has deepened inequity and inequality in water governance. Although integrated water resource management (IWRM) promotes participation, it fails to address power imbalances and historical inequalities rooted in Apartheid. This paper employs a systematic literature review and qualitative thematic analysis of 13 peer-reviewed studies, policy documents, and institutional reports published between 1998 and 2024. Using a thematic analysis approach, studies were coded according to themes of decentralisation, participation, and equity in South Africa's water governance framework. The findings reveal that IWRM's limited focus on social factors leads to superficial participation and worsening disparities. To address this, the study proposes 'developmental water management' (DWM), which combines participation, power, and equity within a developmental state framework for more inclusive water governance. The research calls for policy reforms, institutional changes, and active engagement with marginalised communities to ensure equitable water access for all.

INTRODUCTION

Decentralisation of public services is advocated as a more equitable model of service delivery. However, this is a problematic and inaccurate assumption that has not been sufficiently interrogated (Muriu, 2013). The management of water resources has long been recognised as a cornerstone for achieving sustainable development and social equity (Ali and Kamraju, 2024). As water is essential not only for human survival but also for economic growth and environmental integrity, its governance must address both efficiency and equity concerns. In this context, the decentralisation of water resource management has emerged as a widely advocated reform in many parts of the world, especially in the Global South. This shift towards decentralisation is predicated on the belief that devolving decision-making power to local stakeholders will lead to more responsive, equitable, and context-specific solutions to water management challenges (Blomquist et al., 2005). However, the assumption that decentralised governance inherently fosters equity has been questioned, particularly in countries like South Africa, where historical legacies of exclusion and inequality still permeate the social fabric (Jalisa, 2023).

In South Africa, the post-Apartheid era ushered in comprehensive reforms aimed at redressing the deep-rooted inequities of the past, particularly in the water sector. Access to water services and resources was governed through exclusionary legislation that prioritised White citizens, particularly White farmers, who were considered essential to the Apartheid-era economy. The introduction of integrated water resource management (IWRM) in the late 1990s was proclaimed as a policy framework that would democratise water governance and ensure equitable access to this vital resource (Van Koppen and Schreiner, 2014). However, despite its ambitious goals, the implementation of IWRM has encountered numerous challenges. Far from reducing inequality, decentralisation has often entrenched the very power structures it sought to dismantle. This is particularly evident in the operation of irrigation boards and water user associations (WUAs), where historically advantaged groups, such as large-scale commercial farmers, continue to exert disproportionate influence over water allocation decisions (Movik, 2012; Mehta and Movik, 2014).

The persistence of these inequities is not merely a consequence of flawed institutional design but also of deeply entrenched socio-political dynamics that shape access to and control over water resources. As Swatuk (2010) shows, contemporary water governance in South Africa is deeply conditioned by historical configurations of power, with decision-making continuing to reflect the interests of actors who benefited from colonial and Apartheid-era control over land, capital, and water resources. This dominance is perpetuated through their access to financial resources, technical expertise, and political networks, which marginalised communities, particularly Black farmers and women, often lack (Goldin, 2010). As a result, the promise of inclusive governance through decentralised institutions has largely remained unfulfilled. As Biswas (2004) and Jeffrey and Gearey (2006) note, IWRM has often been critiqued as a theoretically sound but operationally vague paradigm. This critique provides the conceptual rationale for assessing how IWRM was implemented in South Africa's decentralisation reforms.

This paper, therefore, critically examines the extent to which the decentralisation of water resources management in South Africa has reinforced, rather than alleviated, inequities in water management. By using systematic review methodology, this study explores the extent to which the decentralisation framework, with its theoretical appeal, has meaningfully addressed the structural barriers that limit

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the participation of historically marginalised groups. Decentralised water governance refers to the deliberate devolution of authority and decision-making from national agencies to lower levels such as catchment, district, and community institutions. In theory, this model enhances participation, accountability, and responsiveness by allowing decisions to reflect local needs and conditions. In practice, decentralisation has been operationalised in South Africa through catchment management agencies (CMAs) and water user associations (WUAs), intended to foster participatory and adaptive management. However, as the literature demonstrates (Muller, 2018; Meissner et al., 2016), the effectiveness of these structures has been constrained by uneven capacity, entrenched hierarchies, and the persistence of technocratic control. This paper, therefore, conceptualises decentralised governance not as a mechanical transfer of authority, but as a negotiated political process that must be embedded within a developmental framework focused on equity and empowerment. Furthermore, the paper engages with the broader academic discourse on decentralisation to understand whether this governance model can achieve equity in highly unequal societies such as South Africa. In doing so, it seeks to contribute to the ongoing debate on the effectiveness of decentralised governance models in achieving both environmental sustainability and social justice in resource management. This paper is guided by three central research questions:

- How has decentralisation under the IWRM framework reshaped water governance in post-Apartheid South Africa?
- To what extent have decentralised institutions advanced or constrained equity in water access?
- How can the emerging paradigm of 'developmental water management' (DWM) be operationalised to achieve equitable transformation?

The study contributes theoretically by extending IWRM through a developmental-state perspective, policy-wise by revealing institutional and ideological barriers to equity, and practically by proposing implementable pathways for reform. The remainder of the paper is structured as follows: The background and conceptual framing of water governance in South Africa, with particular attention to the evolution of integrated water resource management (IWRM), decentralised governance, and the emergence of developmental water management (DWM). This is followed by the research methodology and data sources employed in the study. The paper continues to present the results, beginning with an overview of the evidence map and followed by the key findings from the systematic review, followed by the discussion of these findings in relation to South Africa's institutional and policy trajectories, highlighting tensions between policy intent and implementation. Finally, the paper concludes by summarising the study's main insights and outlining the theoretical, policy, and practical implications of adopting a developmental water management approach.

BACKGROUND

Integrated water resource management (IWRM) emerged in the early 1990s as a global response to fragmented, sectoral water governance. Promoted by bodies such as the World Bank, GWP, and the UN, IWRM advances holistic management across sectors, scales, and institutions to achieve efficiency, equity, and environmental sustainability, with the Dublin Principles (1992) framing water as both an economic and social good. Over time, IWRM has become a widely adopted policy ideal, often interpreted differently across various contexts. In South Africa, IWRM gained traction in the post-Apartheid reforms of the late 1990s and informed the drafting of the National Water Act (1998), which sought to unify racially segregated and sectorally fragmented systems under a framework of equity and sustainability.

To understand the management of water resources and access to water services in South Africa over time, we need to examine how colonial, Apartheid and post-Apartheid policies have influenced and, in some ways, perpetuated inequalities within the water sector. The discourse from early irrigation legislation to more progressive but challenging integrated water resource management (IWRM) approaches highlights both continuities and attempts at transformation within South Africa's water governance framework.

Colonial and Apartheid-era policies

The Irrigation and Conservation of Water Act of 1912 (Union of South Africa, 1912) represent one of South Africa's earliest formal water laws, centred on consolidating water rights to serve primarily agricultural and White landowners (Turton et al., 2004). Its discriminatory structure, rooted in the riparian rights principle, privileged private landowners (typically White) with water on their land while systematically excluding Black South Africans, who were largely displaced by the Natives Land Act of 1913. These laws reinforced racial inequalities in water access, embedding them in the socio-political structure (Turton et al., 2004; Hall and Burger, 1957).

The Irrigation and Conservation Act of 1912 was reviewed, and the new Water Act of 1956 (Act No. 54 of 1956: Union of South Africa, 1956; Turton et al., 2004) was promulgated to consolidate all water laws at the time. The Water Act of 1956 continued this trend but also attempted to address industrial and urban water needs arising from economic growth and mining activities. However, it upheld a centralised control system, concentrating water resource management within the Department of Water Affairs, which maintained White control and largely ignored Black South Africans' water needs (Tempelhoff, 2017). This Act represents a legacy of inequity that was entrenched in Apartheid policies, thus reinforcing colonial water-access disparities well into the 20th century (Van der Merwe and Grobler, 1990).

Post-Apartheid shift: from equity to sustainable management

With the democratic transition in the early 1990s, there was an urgent need to reform water laws in line with principles of equity and social justice. The South African Constitution of 1996 (RSA, 1996) enshrined the right to water and an environment not harmful to health. This legal foundation marked a critical shift towards inclusive water governance, setting the stage for the National Water Act (NWA: RSA, 1998) of 1998, which aimed to redress historical inequalities by promoting equitable access to water for all South Africans (Schreiner and Van Koppen, 2002; Van Koppen and Schreiner, 2014). The 1998 National Water Act drew heavily on IWRM principles, seeking to promote integrated and participatory management of water resources. However, as scholars such as Schreiner and Hassan (2010) and Muller (2018) have argued, the adoption of IWRM in South Africa was not context-neutral. While it provided an integrative framework, it also imported technocratic and market-oriented assumptions that conflicted with the redistributive imperatives of post-Apartheid transformation.

The NWA of 1998 enshrined the idea of integration in managing water resources, seeing it as a holistic and sustainable approach that involves multiple stakeholders and addresses both social and ecological water needs. The Act attempted to decentralise water management through the creation of catchment management agencies and water user associations to encourage local governance and empower previously marginalised communities. However, challenges in implementation, such as limited resources, bureaucratic inefficiencies, and resistance to change, have hindered the transformative potential of these initiatives (Blignaut et al., 2009; Turton et al., 2004). Moreover, although some catchment

management agencies and water user associations were established to replace Apartheid-era irrigation boards, several studies (Förster et al., 2017; Meissner et al., 2016) show that these new bodies often reproduced similar power dynamics. Membership structures and decision-making processes continued to privilege commercial farmers, while historically marginalised communities remained underrepresented. This continuity suggests that decentralisation, in practice, extended rather than dismantled the socio-economic hierarchies of the past. This then supports the proposition of this paper, that the IWRM framework carries strong neoliberal undertones, emphasising efficiency, cost recovery and market rationality (Swatuk, 2010). In contrast, early post-Apartheid reforms were underpinned by social democratic ideals that prioritised redistribution, equity, and state-led development. The tension between these two ideological orientations created contradictions within South Africa's water reform process, limiting its transformative potential. DWM is proposed here as a reconciliatory approach that integrates IWRM's coordination logic with the equity focus of developmental governance.

Further developments: NWRS and developmental water management (DWM)

To further implement the NWA, the Department of Water Affairs and Forestry developed the National Water Resource Strategy 1 (NWRS 1) of 2004 (DWAF, 2004), which sought to operationalise the principles of IWRM but faced difficulties in fostering true integration across sectors like agriculture, energy, and land reform. As mandated by the NWA, the then Department of Water Affairs developed the National Water Resource Strategy 2 (NWRS 2) of 2013 (DWA, 2013), which incorporated the concept of developmental water management (DWM) that emphasised equitable distribution and state-led intervention to ensure water's role in socio-economic development (Van Koppen and Schreiner, 2014). While the National Water Resource Strategy 2 promoted DWM as a means to implement IWRM principles, its primary focus remained on IWRM, with equity serving as the foundation of water resource management in alignment with South Africa's commitment to social justice. The implementation of IWRM continued to be a challenge. The most recent version, the National Water Resource Strategy 3 (NWRS 3) of 2023 (DWS, 2023), continues to uphold these developmental principles, but the current strategy is designed more to address international sustainability goals such as the Sustainable Development Goals (SDGs) and climate resilience. NWRS 3 reinforces DWM by integrating water, land, and environmental management to foster sustainability and address inequality comprehensively (DWS, 2023). South Africa's water resource legislation and policy frameworks have evolved significantly, but the legacy of inequality continues to challenge the sector. From colonial laws that marginalised Black South Africans to post-Apartheid efforts at equitable management, the struggle for fair water distribution persists. Effective implementation of IWRM and DWM principles remains essential to achieving water justice and sustainable management in South Africa (Turton et al., 2004). Existing literature on water reform in South Africa has largely focused on institutional design and technical implementation of IWRM (Schreiner and Hassan, 2010; Muller, 2018). However, limited attention has been paid to how decentralisation under IWRM has perpetuated inequities and excluded historically marginalised groups. This paper addresses this gap by analysing how decentralisation mechanisms reproduce structural inequalities and by advancing DWM as a more contextually appropriate and equity-driven alternative.

METHODOLOGY

Systematic review

This study used a systematic review as an overarching methodology. A systematic review, according to Van Rooyen et al. (2013 p. 65),

“is a methodology that generates an overview of the results of primary research on a specific research question. It is different from a traditional literature review in that it identifies, selects, synthesises and evaluates only high-quality evidence through an explicit, rigorous and particular process. The idea of a systematic review is to establish what is the ‘best evidence’ regarding a specific question and to use that to inform policy and practice. It is thus in keeping with a shift towards an evidence-based approach to decision making for policy.” A broader academic understanding of systematic reviews is that they are the synthesis of published research to answer a clearly formulated question by using systematic and explicit methods to identify, select and critically appraise relevant research and collect and analyse data from the studies included in the review (CEE, 2013; 2022). In this study, the systematic review looks at the extent of research on IWRM interventions within South Africa, and how this paradigm, through decentralisation, has reinforced inequalities rather than addressing them. Systematic reviews are used to address various types of questions (for example, effectiveness, feasibility, appropriateness, and meaningfulness of interventions) (Hannes, 2017) across numerous sectors (including for environmental evidence) (CEE, 2013 and 2022). The growth in popularity of systematic reviews is linked to the growth in evidence-informed decision-making across sectors of society, with the realisation of how systematic reviews provide a reliable, objective, and transparent body of evidence to inform decision-making (Sutton and Brown, 2010). Systematic review is an increasingly recognised research methodology in development and environmental research (Stewart, 2019). The primary aim of the approach is to provide policymakers and researchers with an accessible synthesis of existing data, facilitating informed decision-making in the sector.

Systematic search strategy

To gather relevant studies comprehensively, a tailored search strategy was developed. The search process included three main methods. The first was a formal database search – academic databases such as Greenfile, Academic Search Ultimate, Africa-Wide Information, Sociology Source Ultimate, Biological & Agricultural Index Plus, ISI Web of Science, and Scopus were searched systematically to identify peer-reviewed studies on IWRM interventions in South Africa.

Secondly, to supplement academic sources, grey literature from organisations actively engaged in water management, such as the Water Research Commission, Southern African Development Community (Water Sector), and Oxfam, was included. Key water management terms and phrases were used to locate studies outside of traditional academic sources, capturing data from reports, working papers, and technical documents.

Thirdly, references within key journal articles were also reviewed to locate additional studies that may not have been indexed in the formal search (Rios-Ballesteros and Fuerst, 2022; Jalisa, 2023). This iterative process expanded the dataset by capturing highly relevant but possibly underrepresented studies.

A Boolean search string was designed to combine important concepts, such as study population and intervention type, without constraining the outcome variable. This inclusive approach ensured a wide-ranging search, maximising the relevance and volume of data collected (Snilstveit et al., 2013). The full master search string was: (“South Africa” OR “South African” OR “Southern Africa” OR “Republic of South Africa” OR “South Africa Republic” OR “Gauteng” OR “Mpumalanga” OR “Western Cape” OR “Eastern Cape” OR “Free State” OR “KwaZulu-Natal” OR “KwaZulu Natal” OR “Limpopo” OR “Northern Cape” OR “North-West” OR “North West” OR “NorthWest” OR “Inkomati-Usuthu” OR “Breede-Gouritz” OR “Berg-Olifants” OR “Mzimvubu-Tsitsikamma” OR “Pongola-Mzimkulu” OR Olifants OR Vaal OR Orange OR

“Magalies Water” OR “Mhlathuze Water” OR “Rand Water” OR “Sedibeng Water” OR “Amatola Water” OR “Bloem Water” OR “Lepelle Northern Water” OR “Umgeni Water” OR “Overberg Water” OR “Catchment Management Agency”) AND (“Integrated Water Resource* Management” OR “IWRM” OR “Developmental Water Management” OR “DWM” OR “Integrated Catchment Management” OR “ICM” OR “Integrated Resource* Management” OR “IRM” OR “Integrated River Basin Management” OR “IRBM”).

Screening and inclusion criteria

The studies retrieved from academic and grey literature sources were imported into EPPI-Reviewer 4 software, where a structured, 2-stage screening process was conducted. First, titles and abstracts were screened, followed by a detailed full-text review. The Population-Intervention-Comparator-Outcome (PICO) model informed the inclusion criteria, which were developed to focus on IWRM interventions relevant to South African populations. Screening for inclusion was conducted with the main goal of enhancing consistency, and discrepancies were resolved through a re-screening process (Althuis and Weed, 2013; Snilstveit et al., 2013). The systematic review was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The search and screening process is summarised in the PRISMA flow diagram (Fig. 1). A total of 1 312 records were identified through database searching, of which 313 proceeded to title and abstract screening following the removal of duplicates and clearly irrelevant records. Full-text eligibility assessment was conducted for 313 articles, of which 42 were included in the evidence map. Following critical appraisal,

13 studies were ultimately included in the systematic review, drawn from the enabling environment IWRM intervention category. The PRISMA flow diagram below provides an overview of the systematic review process followed.

Data extraction and analysis

Following screening, metadata were extracted using a predefined analytical framework aligned with the Global Water Partnership (GWP) IWRM toolbox and South Africa's National Water Resource Strategy 2 (NWRS 2). This framework ensured conceptual consistency between intervention categories and outcome variables relevant to South African water governance.

The framework was organised into rows and columns to systematically record intervention types and outcome variables, ensuring each study's unique contributions were captured accurately. Having identified relevant literature, a process of characterising them began by using a coding tool (Stewart et al., 2010 p. 64–78) through EPPI-Reviewer. This process allowed further assessment of relevance, as well as facilitated analysis later in the review.

This systematic review applied a rigorous methodology to synthesise a diverse body of research on IWRM interventions in South Africa. By systematically identifying existing literature, this study provides a critical foundation for understanding the complex interplay between IWRM decentralisation and the potential reinforcement of inequity and inequality in water management. The studies that formed part of the review went through a critical appraisal process that looked at the study design, evidence conduct, evidence analysis and evidence conclusions.

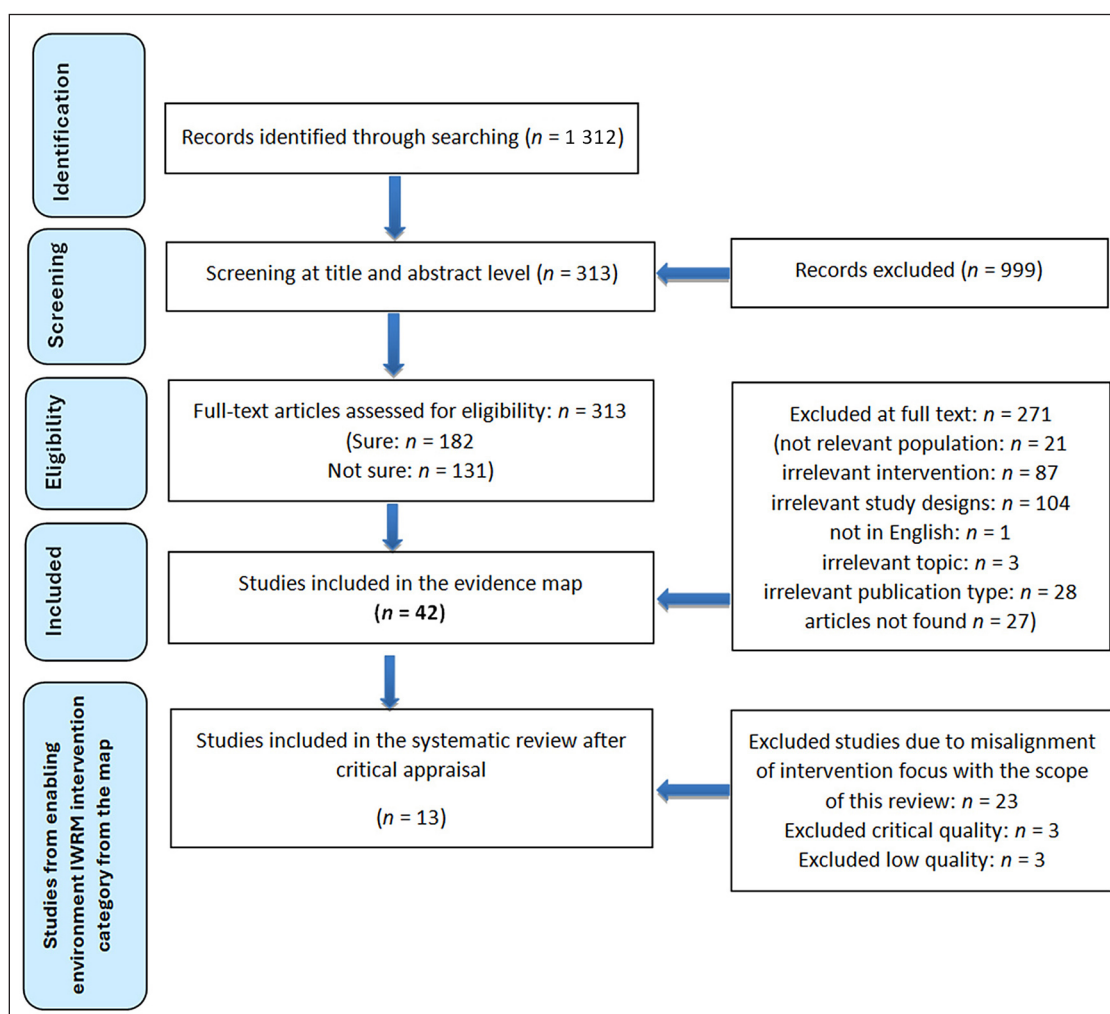


Figure 1. PRISMA flow diagram

Of the 42 studies included in the evidence map, only 19 focused on the ‘enabling environment’ intervention, which is the focus of this paper. Six of these were excluded due to critical quality and low quality, leaving 13 studies for the systematic review. This was to ensure that the studies passed the rigorous test of being trustworthy, as argued by (Gough et al., 2013; Africa Centre for Evidence and Department of Planning, Monitoring and Evaluation, 2016).

RESULTS

Evidence map results

The 42 included studies constitute the available evidence base on IWRM interventions related to enabling environment, institutional arrangements, and management instruments in South Africa. Figure 2 provides an overview of the evidence map for ease of reference, whilst the interactive evidence map can be found at this link: <https://drive.google.com/file/d/1rs0JuTwgn1jMXYWjiX9uPMZMaecIWa8T/view?usp=sharing>. (To be able to view the evidence map, the reader must click on the link, then download the HTML file and open it with Google Chrome.)

Based on the bubble sizes in Fig. 2, most evidence on IWRM interventions relates to policies, legal frameworks, coordination, facilitation, and understanding water endowments. Reported outcomes mainly focus on socio-economic development, social equity, ecosystem protection, and the establishment of CMAs and WUAs. However, there are notable evidence gaps in areas such as investment and financing (no studies), water and sanitation services (only 1 study), protection against water-related disasters, and advisory committees (no studies).

advisory committees (no studies), the human right to water (4 studies), and changing water availability and demand over time (3 studies).

Decentralisation and institutionalised inequities in water management

Analysis of 13 systematically reviewed studies reveals that decentralisation within IWRM in South Africa perpetuates institutionalised inequalities. Notably, 7 studies demonstrate that decentralised participation structures exacerbate exclusionary practices, disproportionately disadvantaging historically marginalised communities. The historical legacy of Apartheid continues to influence current water governance, limiting effective participation by disadvantaged populations in decentralised IWRM structures (Förster et al., 2017; Lotz-Sisitka and Burt, 2006; Van Wyk et al., 2006).

Despite decentralisation being intended to democratise water governance by transferring decision-making authority to local institutions, theoretically allowing for more inclusive participation, evidence suggests that decentralisation has instead enabled existing power holders to consolidate control. Institutional frameworks often lack mechanisms to ensure equitable representation, allowing dominant groups, such as commercial White farmers, to maintain authority over resource distribution. In practice, the decentralisation of power has not translated into genuine empowerment for historically disadvantaged communities, raising concerns about the effectiveness of decentralised governance in addressing systemic inequities.

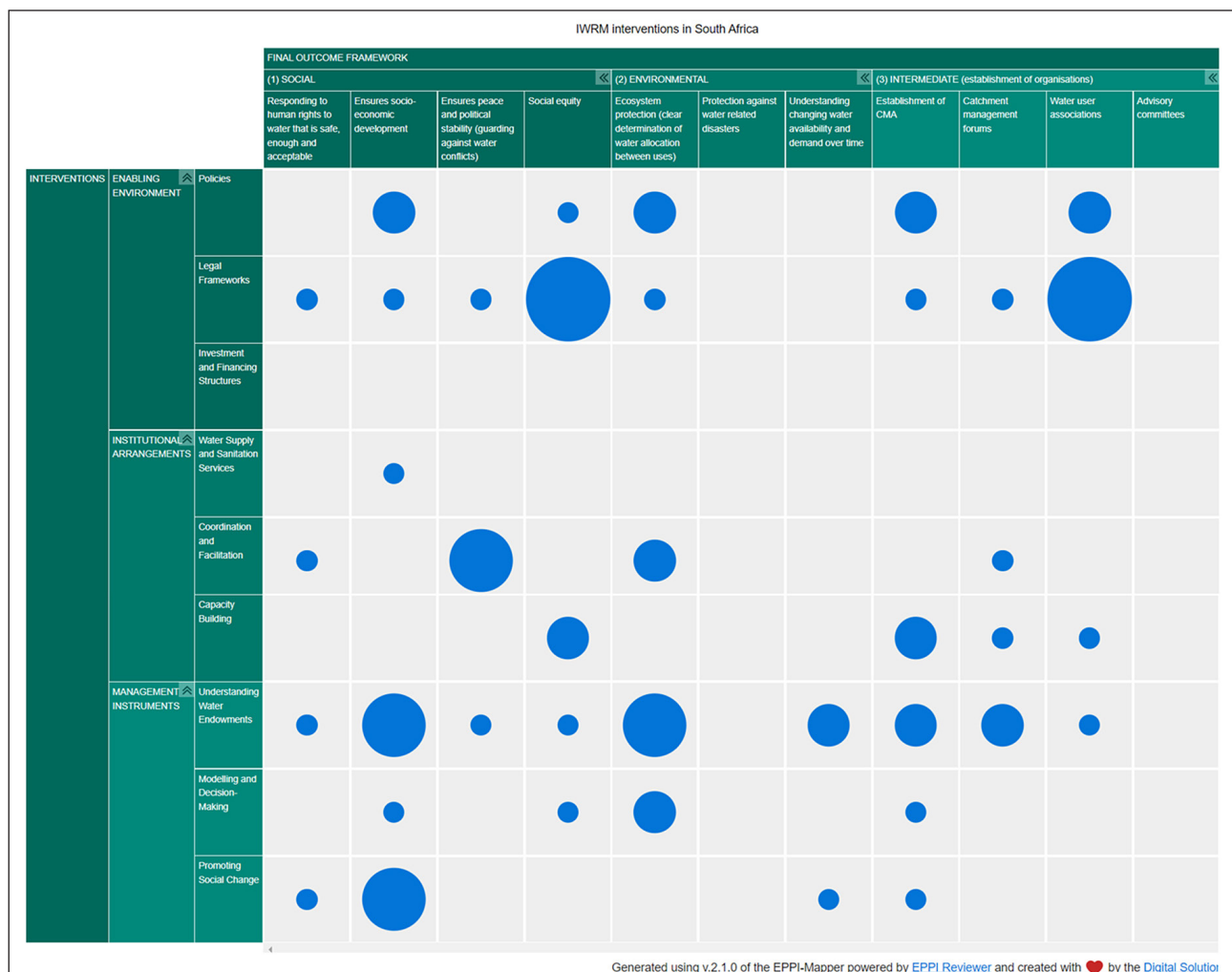


Figure 2. Evidence map on IWRM interventions and outcomes in South Africa

For example, in the Thukela River Basin, the mandated transformation of Apartheid-era irrigation boards into water user associations (WUAs) was intended to foster inclusive participation. However, this restructuring has largely been superficial. A participant noted, “we only formed the WUA because the Department of Water Affairs wants us to do so, but in reality, the irrigation boards will continue to function as usual” (Kemerink et al., 2013). This statement reflects how decentralised structures have been co-opted to maintain traditional power dynamics, undermining the democratisation process.

Gendered barriers in decentralised participation

Four studies specifically examine the gendered impacts of decentralisation, illustrating that women face significant obstacles in participating in IWRM structures (Elias, 2017; Lotz-Sisitka and Burt, 2006; Murugani and Thamaga-Chitja, 2017; Waalewijn et al., 2009). These studies reveal that participation is often framed through traditional, male-dominated lenses, marginalising women’s voices in decision-making processes. Societal norms and internalised perceptions of inferiority further hinder women’s active engagement.

Cultural norms and patriarchal structures in many South African communities contribute to the marginalisation of women in decentralised governance. Women often lack access to critical resources, such as land and water rights, which are prerequisites for meaningful participation in water management decisions. In Sekhukhune, for instance, women require the approval of male family members to access land and water, severely limiting their autonomy and involvement in governance. This patriarchal gatekeeping effectively sidelines women, perpetuating gender disparities in resource management (Murugani and Thamaga-Chitja, 2017).

Moreover, even when women attend stakeholder meetings, their participation is frequently symbolic rather than substantive. Traditional gender roles and societal expectations position women primarily as caregivers, discouraging them from taking leadership roles in water governance. Consequently, decision-making processes remain male-dominated, undermining efforts to achieve gender equity within decentralised IWRM institutions (Elias, 2017).

Persistence of power asymmetries

The synthesis of the reviewed studies highlights the resilience of structural power imbalances within decentralised IWRM frameworks. Despite IWRM principles advocating for inclusive participation, the absence of targeted interventions to dismantle existing hierarchies results in the reinforcement of historical power structures (Denby et al., 2016; Förster et al., 2017; Kemerink et al., 2013; Lotz-Sisitka and Burt, 2006). Table 1 illustrates the proportion of studies that identify persistent power asymmetries versus those that observe equitable outcomes.

This quantitative representation reinforces the argument that decentralisation, in its current form, fails to dismantle entrenched inequities in South Africa’s water governance. Without deliberate and proactive strategies to redistribute power, decentralised systems risk becoming tools for perpetuating historical inequalities. This dynamic is particularly evident in rural and agricultural communities where affluent stakeholders leverage their socio-economic advantages to dominate decision-making processes.

Water allocation reforms: observed equity outcomes

Despite policy targets to allocate 30% of water to women by 2014 and 60% by 2024, observed allocation patterns remain highly unequal. National statistics indicate that by 2024, the Black population controlled only about 5.8% of agricultural water uses, with Black women controlling less than 1%, and Black farmers holding under 6% of registered water use rights (Tekwa and Adesina, 2023). Case studies from the Inkomati-Usuthu and Limpopo Catchment Management Agencies further reveal that resource allocation continues to be dominated by historically privileged groups, highlighting the persistence of structural power within decentralised governance. These patterns reinforce the synthesis of this paper that, without redistributive safeguards and procedural justice mechanisms, decentralisation reproduces inequity rather than addressing it.

DISCUSSION AND RECOMMENDATIONS

The decentralisation of water resources management in South Africa has been widely promoted as a means to improve efficiency, accountability, and participatory governance. However, this research critically reveals that decentralisation, in its current form, has exacerbated inequity and inequality in water provision. Despite the theoretical appeal of IWRM, its practical implementation in South Africa remains hindered by complexities in environmental, geographical, and socio-political contexts. Scholars such as Biswas (2008) and Jeffrey and Gearey (2006) argue that IWRM largely exists as a theoretical framework with vague operational guidelines, limiting its efficacy in addressing localised challenges. This study advances this discourse by empirically demonstrating how IWRM’s narrow focus on participation neglects deeper equity issues embedded in South Africa’s historical and contemporary power structures.

A critical insight from this research is the insufficiency of participation as a standalone principle within IWRM. Tokenistic participatory practices, devoid of genuine power redistribution, risk reinforcing existing disparities (Tchida and Stout, 2024). Equity within water management must extend beyond gender considerations to encompass racial and economic inequalities shaped by Apartheid-era legacies and current socio-political dynamics. This study argues for a holistic integration of participation, power, and equity in designing and implementing water governance frameworks. The findings of this study affirm that these social dimensions are interdependent, influencing decision-making processes and ultimately determining the outcomes of water management strategies.

The decentralisation of power to local governance structures has not effectively translated into equitable resource distribution. Persistent inequalities in access to and management of water resources highlight the limitations of current decentralisation efforts. This research identifies the conceptual gap in IWRM’s limited engagement with power and equity, contributing to the academic understanding of how these dimensions co-produce participatory outcomes. Aligning with Quimby and Levine (2018), the study illustrates that participation is both a pathway to and a product of social equity and power-sharing. This reciprocal relationship necessitates a conscious policy design that prioritises equity alongside participatory mechanisms.

Table 1. Distribution of studies on power dynamics in decentralised IWRM structures

Outcome	Number of studies	Percentage (%)
Power asymmetries persist	9	69.2
Evidence of equitable participation	4	30.8

In addressing the persistent inequities and implementation failures of South Africa's water reform agenda, this study proposes developmental water management (DWM) as a more contextually relevant paradigm for achieving equity and transformation. Adopted as a policy direction by the then Department of Water Affairs and Forestry in 2009, DWM operationalises the principles of IWRM within a developmental state framework that fundamentally prioritises equity, redistribution, and social justice. It reinterprets the state's role as a developmental public trustee, one that not only regulates but actively intervenes to redress structural imbalances in access and control over water resources. While the National Water Act (1998) and the National Water Resource Strategy 2 (NWRS 2, 2013) articulate participation and equity as objectives, their realisation has been constrained by fragmented institutional implementation and limited capacity at multiple governance levels. DWM provides a normative and operational bridge between these legislative commitments and South Africa's developmental vision.

The 6 equity principles proposed by this study as the normative foundation of DWM are: (i) addressing the needs and rights of people; (ii) considering the totality of benefits derived from water; (iii) ensuring procedural justice; (iv) prioritising societal ethical principles; (v) contextualising present inequities within historical dynamics; and (vi) recognising the intersectionality of participation, power, and equity. These principles collectively advance a governance model that is both inclusive and historically conscious. Importantly, they are not abstract ideals; rather, they inform author-proposed actionable policy and institutional reforms designed to operationalise equity within South Africa's water governance framework.

To translate these principles into practice, DWM through Water For Growth and Development Framework by DWAF (2009) introduces 6 interrelated mechanisms: (1) participatory governance, ensuring catchment management agencies (CMAs) and water user associations (WUAs) include historically marginalised users; (2) redistributive allocation reform, embedding equity criteria in licensing and authorisation processes; (3) targeted infrastructure investment, prioritising access for rural and peri-urban communities; (4) intergovernmental coordination, linking CMAs and water services authorities in planning and delivery; (5) transparent performance monitoring, incorporating equity-based indicators into the Department of Water and Sanitation's compliance frameworks; and (6) capacity development, empowering communities and local institutions to participate meaningfully in decision-making.

These mechanisms, when analysed together, reveal points of convergence in promoting equity and participation, while also highlighting DWM's distinctive emphasis on historical redress and distributive justice. Through this integrated approach, DWM bridges the gap between policy aspiration and implementation reality, moving beyond IWRM's technocratic and market-oriented logic by embedding ethical governance and structural transformation within water policy. In doing so, DWM positions water not merely as an economic or environmental resource, but as a developmental asset central to social transformation. The study therefore proposes DWM not as a revival of a dormant concept, but as a forward-looking, evidence-informed paradigm capable of realising South Africa's Constitutional commitment to equity, redress, and sustainable development.

Policy recommendations

To confront the deep-rooted inequalities in South Africa's decentralised water governance, a transformative approach is important, one that moves beyond surface-level reforms and addresses the underlying structures of marginalisation. This transformation begins with the reimagining of institutional

frameworks. Catchment management agencies and water user associations must evolve into inclusive platforms where historically marginalised voices are not only heard but hold genuine decision-making power. This requires a redesign of governance structures to reflect the diverse realities of all communities, ensuring that representation translates into meaningful participation.

Capacity-building programmes must be tailored to uplift disadvantaged groups, particularly women, by equipping them with the knowledge and leadership skills necessary to actively participate in water governance. These initiatives should foster confidence and agency, enabling historically excluded communities to influence decisions that directly impact their access to essential resources. Community empowerment requires both institutional openings and the mobilisation of collective agency. In South Africa, alliances such as the Water Caucus, the Environmental Monitoring Group (EMG), and local civil movements have played a crucial role in amplifying community voices and challenging inequitable water practices. Developmental water management should therefore strengthen collaboration between state institutions and these grassroots networks to ensure that participation is not merely consultative but genuinely co-productive. Mechanisms such as participatory budgeting, catchment-level social audits, and community liaison forums can institutionalise local voice and accountability.

Legislative frameworks require substantial reform to address entrenched inequities in land and water access. Without secure tenure and water use rights, marginalised communities remain locked in cycles of exclusion, limiting their socio-economic opportunities. Legal reforms must prioritise the protection and equitable distribution of these critical resources, ensuring that historically disadvantaged groups, particularly women, gain meaningful access. To achieve this, gender-sensitive policies must challenge patriarchal norms by instituting mechanisms such as quotas for women's participation and community-driven governance structures.

Evidence from the systematic review indicates that, while IWRM has advanced institutional integration, its implementation has entrenched inequities in water allocation. As shown in the results section, national indicators and case study material from decentralised institutions, including catchment management agencies, demonstrate that allocation patterns continue to favour historically privileged groups, with particularly adverse effects for Black farmers and Black women. This failure highlights the government's inability to enforce transformative policies effectively, revealing a concerning gap between legislative intent and implementation. The state's reluctance or incapacity to challenge entrenched economic interests raises critical questions about its commitment to fulfilling its Constitutional obligations, particularly in dismantling racial and gender-based inequalities in water resource access and governance.

Achieving equitable water governance requires vigilant oversight to ensure that decentralisation delivers more than symbolic participation. Continuous monitoring and evaluation should be embedded within governance systems to assess the effectiveness of participatory practices and equity-driven reforms. This emphasis on oversight directly aligns with the 6 mechanisms proposed for operationalising DWM. In particular, transparent performance monitoring (Mechanism 5) provides the tools for tracking equity outcomes, while capacity development (Mechanism 6) equips local institutions and communities to engage meaningfully in these processes. Similarly, institutional redesign (Mechanism 1) and intergovernmental coordination (Mechanism 4) create the structural conditions for accountability, while redistributive allocation reform (Mechanism 2) and targeted infrastructure investment (Mechanism 3) ensure that monitoring translates into tangible improvements in access. Together, these mechanisms form an integrated approach that transforms decentralisation

from a superficial reform into a genuine catalyst for inclusive and sustainable development.

CONCLUSION

The decentralisation of water resources management in South Africa stands at a critical juncture. While intended to democratise decision-making and improve service delivery, the current framework has inadvertently reinforced existing inequalities. This study has exposed the limitations of IWRM, particularly its narrow focus on participation without adequately addressing the deeper issues of power and equity. By critically examining these shortcomings, this research contributes to the academic discourse on water governance, highlighting the need for a more nuanced and holistic approach.

DWM emerges as a compelling alternative, offering a framework that explicitly integrates participation, power, and equity. Its principles align with the complex socio-political realities of South Africa, making it better suited to address the entrenched disparities in water access and management. However, adopting DWM alone is not sufficient. It must be supported by deliberate policy reforms, institutional restructuring, and continuous engagement with the marginalised communities.

The recommendations outlined in this study present actionable pathways toward achieving equitable water governance. Institutional reforms that promote inclusive decision-making, capacity-building initiatives that empower disadvantaged groups, legal protections for resource access, gender-sensitive policies, and robust monitoring systems are all essential components of this transformation. Collectively, these strategies can dismantle systemic barriers and foster a water management system that is truly inclusive, just, and sustainable.

Ultimately, the success of decentralised water governance in South Africa hinges on the political will to implement these reforms and the active participation of all stakeholders in driving meaningful change. Only through comprehensive and transformative action can the country move beyond superficial reforms and realise the promise of equitable and sustainable water provision for all its citizens. This paper contributes to ongoing debates on water governance in 4 key ways. In terms of knowledge, it provides empirical evidence that decentralisation, when implemented without redistributive safeguards, can reinforce rather than redress inequity. Theoretically, it advances developmental water management as a hybrid model integrating IWRM's coordination logic with the state's transformative mandate. Policy-wise, it identifies institutional and ideological barriers that have hindered transformation and proposes actionable reform pathways. Practically, it outlines concrete mechanisms for implementing equity-driven water management. To move beyond normative commitment to demonstrable transformation, future research should focus on South African pilot initiatives that operationalise DWM through structured participatory governance experiments. These pilots ought to produce policy-relevant evidence on mechanisms of representation, allocation, and accountability, thereby informing scalable reforms in catchment management agencies and water services authorities.

AUTHOR CONTRIBUTION

Luvuyo Jalisa is the sole author of this article and was responsible for the conceptualisation of the study, the development of the research design, and the preparation of the manuscript.

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