International Journal of Social Science Research and Review

http://ijssrr.com
editor@ijssrr.com
Volume 6, Issue 7
July, 2023
Pages: 642-656

Water Resources Management in South Africa: A Feminist Political Ecology Perspective

Luvuyo Jalisa

Department of Water and Sanitation, South Africa

E-mail: luvuyojalisa@gmail.com

http://dx.doi.org/10.47814/ijssrr.v6i7.1343

Abstract

Integrated Water Resources Management (IWRM) has been the main paradigm in managing water resources in South Africa. Its approach calls for the decentralisation of water resources management to ensure inclusive participation in decision-making. The Paper applies a systematic search of the literature and document analysis to dissect how decentralisation of water resources management gestates three social dimensions of participation, power and equity, which are often overlooked by the approach of IWRM. The Feminist Political Ecology was then used as a framework to analyse all these three social dimensions of participation, power and equity. Power dynamics in the decentralised institutions of participation often hinder the participation of previously marginalised groups. The Paper further illustrates that power manifests itself in many forms in the decentralised institutions of participation. White commercial farmers in South Africa often have too much power and dictate all decisions made in those decentralised institutions of participation. Lastly, the Paper also shows that equity is still a pipedream in South African water resources management institutions and processes because water is intrinsically linked to the land, which was dispossessed from the black, indigenous people of South Africa. Therefore, equity in water can never be achieved without addressing the land issue.

Keywords: *Participation; Power; Equity; Feminist Political Ecology; Integrated Water Resources Management*

1. Introduction

This Paper explores Integrated Water Resources Management as a water management approach adopted by the South African Government to manage its water resources. To understand the dynamics of water resources management in South Africa, this Paper uses Political Ecology as a broad ambit framework to discuss the three themes that emerged from understanding water resources management in South Africa: participation, power, and equity. Within the broad ambit of political ecology, the Paper specifically uses Feminist Political Ecology as a lens to probe the intersections between participation,

power, and equity and how these relate to water. The Paper starts by first giving a broad outline of political ecology before drawing on feminist political ecologists to explain participation, power, and equity, and ends this section on how these discussions relate to water and IWRM.

2. Understanding the Foundation of Political Ecology

In its broad sense, political ecology unpacks nature-human relations, especially the struggles to access natural resources (Sultana, 2020). To understand the background of the term political ecology, Wolf (1972) argues that the term political ecology' was first coined by Frank Thone in an article published in 1935. Since the term has been used within the context of human geography and human ecology, many political geographers would associate the term political ecology with the neo-Malathusian views on human, society and nature complexities. The neo-Malthusian views were based on the eco-scarcity argument, which was put forward by Thomas Malthusian, who argued that ecological crises come from the demands of a growing human population. For neo-Malthusians, the environmental capacity cannot sustain the ever-growing population (Robbins 2004). The neo-Marxist approach to explaining the relations between humans, society, and nature was by linking it to material power which is driven by political and economic factors (Biersack and Greenberg, 2006:3, 10; Bryant, 1998:80).

Eric Wolf (1972) popularised the term' political ecology' in his article entitled 'Ownership and political ecology,' in which he discussed how local rules of ownership and inheritance "mediate between the pressures emanating from the larger society and the exigencies of the local ecosystem" (Biersack and Greenberg, 2006; Butzer, 1989; Khan, 2013). Wolf reflected on cultural ecology[1] and consulted orthodox Marxist texts to develop his idea of political ecology. For him, the drawback of cultural ecology lay in its emphasis on the "problematics of adaptation to the environment without attending to the structures of inequality that mediated human-nature articulations" (Biersack and Greenberg, 2006). At the same time, Wolf critiqued the obsessive concentration of orthodox Marxists on economic analysis, which neglected the importance of nature and the environment (Biersack and Greenberg, 2006; Khan, 2013). In its essence, political ecology focuses on how relations between humans and their environments are mediated by wealth and power (Peterson and Broad, 2009).

This Paper uses political ecology as an umbrella theoretical framework to discuss the three themes of participation, power, and equity. Political ecology has therefore been defined as a diversity of theoretical and methodological approaches to socio-ecological relations that share a common interest in questions related to the politics of natural resource management, access, and control, environmental knowledge, and their interactive effects on livelihoods and environment change dynamics (Bassett and Peimer, 2015). Political ecology tends to be *power-laden rather than politically inert* (Biersack and Greenberg, 2006; Khan, 2013). The Paper, therefore, takes advantage of the power-laden aspect of this theoretical approach in unpacking IWRM in South Africa by looking at the three themes of participation, power and equity in a quest to achieve both environmental and social justice.

Within the broad ambit of political ecology, the Paper uses feminist political ecology (FPE) because this approach contends that in understanding and analysing parameters that shape access to and control over natural resources, one must look at gender in relation to class, race and other relevant axes of power (Sunberg, 2017). FPE offers an explicit emphasis on power and politics at different scales, directing attention towards the gender dimensions of key questions around the politics of environmental degradation and conservation, the neo-liberalisation of nature and endless rounds of accumulation, enclosure and dispossession associated with each of these (Elmhirst, 2015). It foregrounds intersectionality, which advances the understanding of patriarchy and other power structures to examine

[1] Cultural ecology is an approach associated with Julian Steward who was looking at how cultures are able to develop cultural attributes based upon material and environmental endowments. Basically, how culture use the environment to survive (Townsend, 2009).

the co-constitutiveness of various workings of power and oppression (Sultana, 2020). The constitutive character of overlapping intersectionalities can reinforce marginalisation and oppression across various axes (such as gender, class, race, sexuality, disability, age, and education). Power assemblages are understood and analysed as interlocking systems of contextual marginalisation (Elias, *et al.*, 2021; Sultana, 2020). Its primary focus is on exploring how power is situated in intertwined histories of colonialism, patriarchy, and capitalism, which impact the perceived legitimacy of knowledge holders, their knowledge, and how it is produced (Sundberg, 2017). In a nutshell, FPE analyses the embodied everyday experiences of nature-human interrelations as they play out in different spatial contexts (Elmhirst, 2011; Rocheleau, 2015). For this Paper, I use the FPE lens in analysing and understanding participation, power and equity, which are the main themes that emerged from my research.

3. Water Resources Management in South Africa

South Africa has been no stranger to international debates that promote environmental management and sustainability. As such, to manage its water resources, the country has adopted Integrated Water Resources Management (IWRM) as its approach to managing its water resources. This paradigm is featured in various policies, strategies, and legislative frameworks. We know that in 1998 South Africa introduced the National Water Act (NWA) Act No. 36, which became the country's main legal framework for managing water resources. The NWA made bold provisions to protect, use, develop, conserve, manage and control South African water resources through an integrated and decentralised water management approach (Walter et al., 2011). Then we saw under the National Water Resources Strategy 1 (NWRS1) in 2004 that IWRM was officially adopted as the water resources management approach of the country. IWRM is based on the principles of a) freshwater is a finite and vulnerable resource, essential to sustain life, development, and the environment; b) water development and management should be based on a participatory approach, involving users, planners and policy-makers at all levels; and c) women play a central part in the provision, management and safeguarding of water.

According to Goldin (2010), IWRM was adopted in South Africa despite warnings by water professionals that the actual implementation of IWRM was more complicated than thought. It is important to note that the understanding of IWRM at the time was that it was an approach to water resources management that sought to manage water resources in an integrated manner to adapt to environmental changes and promote the sustainability of water resources (Berjak, 2003; Blomquist et al., 2005; DWAF, 2006; Fritsch and Benson, 2013; Goldin, 2010; Warner et al., 2008). In 2009 DWAF developed a document called Water for Growth and Development Framework. Its aim was to introduce the concept of 'developmental water management' (DWM), to operationalise IWRM and promote equity.

The understanding and the aspirations of both the Water for Growth and Development Framework and the National Development Plan (NDP) vision 2030 were incorporated into the National Water Resource Strategy 2 (NWRS2) of 2013. The NWRS2 was developed to respond to the NDP, ensuring sustainable water management of the country to support its development. The NWRS2 continued to state that water was to be used to contribute to the economy and job creation; therefore, it was to be protected, used, developed, conserved, managed, and controlled sustainably and equitably.

4. Methodology

This Paper applied empirical secondary qualitative research design in order to interpret and understand the world by appreciating different perspectives that may be of utmost importance in understanding water resources management in South Africa. The qualitative research design can be understood as a method that seeks to understand processes and behaviours in their natural settings, through which the researcher tries to make sense of phenomena and the meanings that people attribute to

them (Denzin and Lincoln, 2000). Against this above background, this Paper seeks to exploit the benefits of qualitative research design (Miles and Huberman, 1994). The qualitative research design further allows me as a researcher to recognise and appreciate diversity, differences, and uniqueness (Flick, 2002).

For data collection, this Paper has identified, selected, appraised and synthesised evidence related to the research question. In terms of identifying the literature that formed part of this whole process, it is imperative to note that there was a comprehensive literature search. This literature search aimed to identify all available evidence relevant to the research topic. Studies were searched using three strategies: (a) a formal search of academic databases where I used the master search string; (b) a search of grey literature on the websites of key organisations in the water sector in South Africa, and in Google Scholar, using mainly keywords associated with water management; and (c) citation tracing using different snowballing techniques, such as searching for literature that has been referenced by key publications of relevance to the topic (Langer et al., 2017).

Document analysis will be the method of acquiring information for this research. Many researchers understand document analysis as a form of qualitative research in which the researcher interprets documents to give voice and meaning to the topic at hand (Bowen, 2009; Stake, 2000; Yin, 1989). However, the widely accepted definition of document analysis is foregrounded by Corbin & Strauss (2008), who state that "document analysis is a systematic procedure for reviewing or evaluating documents, both printed and electronic (computer-based and Internet-transmitted) material. Like other analytical methods in qualitative research, document analysis requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge". This fits the exact procedure followed in this research, which includes reading through, analysing, and sorting literature to identify an attribute of materials. Literature materials can be regarded as the manifestation of wisdom, are the ocean of knowledge, and have important values for the development of human society, history, culture, and research scholars. Therefore, document analysis, as chosen in this Paper, produced a rich description of water resources management using the FPE lens (Stake, 2000; Yin, 2003). Therefore, I could apply logical reasoning to explore the logical relations among articles rather than the quantity relationship. In simplest terms, document analysis has been chosen to classify information contained in kinds of literature, to select typical examples, to compare the similarities and differences between things through reasoning, to re-organise and come to a conclusion based on the qualitative description (Bowen, 2009; Labuschagne, 2003).

5. Three Social Dimensions of Water Management in South Africa

5.1. Participation

Participation is a multifaceted term that can mean different things to different people. Such diverse understandings of participation have led authors to identify various typologies of participation by identifying degrees of participation. The commonality across various typologies is how participation can evoke and signify almost anything that involves people. In this Paper, participation is defined as how people get to have a say in collective decisions that affect their lives. It is a matter of engaging stakeholders in decision-making and empowering local stakeholders and groups to contribute to solving public challenges (Van Buuren *et al.*, 2019). The Paper also notes that stakeholders with different ideologies can use participation for other things. Participation can underplay the role of the state and transitional power holders and can overtly or inadvertently cement the ideas of those who already have power (Mohan and Stokke, 2000).

Arnstein's ladder of participation is one of the early and still widely used categorisations of participation. In his categorisation of participation, Arnstein (1969) identifies eight types of participation grouped into three areas: citizen control, tokenism, and non-participation, as shown in Figure 1. Citizen

power is the top form of participation and includes citizen control, delegation, and partnerships. The second broad rung on the participation ladder is tokenism which includes placation, consultation and informing. Tokenism can be understood as a form of manipulative and passive participation that legitimises decisions that have already been taken. At the bottom of the ladder of participation is non-participation, which includes therapy and manipulation. In these forms of (non)-participation, participants have no voice in the process of decision-making (Arnstein, 1969; Cornwall, 2008).

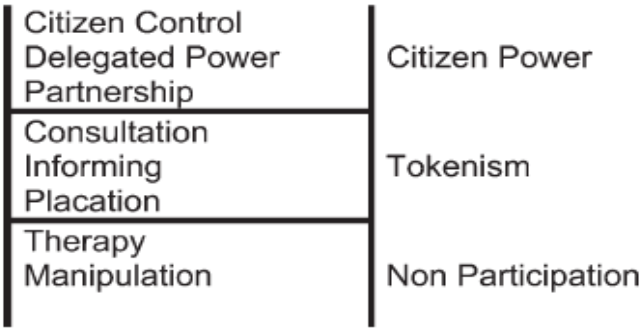

Fig 1: Arnstein's ladder of participation
(Adapted from Pretty, 1969)

The Paper finds Pretty's (1995) typology of participation useful to engage my findings for its broadness and comprehensiveness. It describes participation in seven distinct forms: from manipulative participation, where there is the inclusion of token representatives in decision-making with no real power, to self-mobilisation, as shown in Table 1. In each form, the nature and level of control regarding decision-making is enhanced. For Cornwall (2008), Pretty's categorisation describes a spectrum defined by a shift from control by authorities to control by the people or citizens.

Table 1: Pretty's categories of participation

Typology	**Characteristics of each**
Manipulative participation	Participation is simply a pretence, with 'people's' representatives on official boards who are un-elected and have no power.
Passive participation	People participate by being told what has been decided or has already happened. It involves unilateral announcements by an administration or project management without any listening to people's responses. The information being shared belongs only to external professionals
Participation by consultation	People participate by being consulted or by answering questions. External agents define problems and information-gathering processes, and so control analysis. Such a consultative process does not concede any share in decision-making, and professionals are under no obligation to take on board people's views.
Participation for material incentives	People participate by contributing resources, for example, labour, in return for food, cash or other material incentives. Farmers may provide the fields and labour, but are involved in neither experimentation nor the process of learning. It is very common to see this 'called' participation, yet people have no stake in prolonging technologies or practices when the incentives end.

Functional participation	Participation seen by external agencies as a means to achieve project goals, especially reduced costs. People may participate by forming groups to meet predetermined objectives related to the project. Such involvement may be interactive and involve shared decision-making, but tends to arise only after major decisions have already been made by external agents. At worst, local people may still only be co-opted to serve external goals.
Interactive participation	People participate in joint analysis, development of action plans and formation or strengthening of local institutions. Participation is seen as a right, not just the means to achieve project goals. The process involves interdisciplinary methodologies that seek multiple perspectives and make use of systemic and structured learning processes. As groups take control over local decisions and determine how available resources are used, so they have a stake in maintaining structures or practices.
Self-mobilisation	People participate by taking initiatives independently of external institutions to change systems. They have contacts with external institutions for resources and technical advice they need, but retain control over how resources are used. Self-mobilisation can spread if government and NGOs provide an enabling framework of support. Such self-initiated mobilisation may or may not challenge existing distributions of wealth and power.

(Adapted from Pretty, 1995)

Gaventa's (2006) typology of participation provides a different perspective by discussing spaces for participation. He starts by arguing that the notion of 'space' is extensively discussed in the literature that synthesises power, policy, democracy, and citizen action. This is supported by the earlier work of Cornwall (2008), who argued that these spaces of participation are not neutral; power relations shape them. Gaventa (2006) teaches us that we have: a) closed spaces of participation, which are spaces where decision-making processes are happening behind closed doors; b) invited spaces which are spaces created to widen participation to move from closed spaces to more open ones through an invite; and c) claimed/created spaces which are spaces created by less powerful actors from or against the power holders.[2]

Regarding categories and spaces of participation, FPE zooms in on how marginalised communities are unevenly affected by broader political, economic, climatic, and social-ecological changes by understanding how gender intersects with other aspects and structural power to create differential access to natural resources and participation in the institutions (Erwin *et al.*, 2021). FPE calls for representation justice, which is about increases in the participation of minority groups in decision-making processes. Representation justice prevents the most powerful groups from dominating processes and outcomes and introduces meaningful social perspectives and knowledge that will be overlooked through unjust representation (Young, 2000). Representation justice does not assume shared identities. For example, they understand that since structural racial oppression puts white women in different social positions than black women, white women cannot be said to represent all women (Haeffner, *et al*., 2021). Representation justice rather calls for accountability on myriad perspectives that can provide a broader representation of shared aspects of experiences.

[2] Cornwall (2008) refers to this last type of spaces as organic spaces.

5.1.1. Participation in IWRM Institutions

Within the context of water resources management in South Africa, IWRM is promoted through the NWA 1998, which calls for the decentralisation of water management. However, participation that takes place within a framework of inequalities does not guarantee bottom-up democratic processes or increased equity. This is because the methods used to identify and represent groups for participation in planning and decision-making can cement power dynamics within the institutions of participation, as we see in various institutions such as water user associations and apartheid institutions such as the irrigation boards.

5.2. Power

As should already be evident from the above discussion, power relates strongly to the nature of participation. Power refers to the capacity to influence others, control valuable resources, and administer punishment and rewards (Fiske, 1993; Galinsky *et al.*, 2006). Power can be understood as related to three aspects. The first one is relational power, which is a power that is exerted over a person or a group of people to achieve compliance. Dahl (1957) sees this power as a system of ruling elites where few people have significant power. The second aspect of understanding power is power over an agenda. Bachrach and Baratz (1962) argue that decisions are made within a complex system where power is about making decisions and setting the agenda that leads to decisions. Those who possess power control the agenda, and thus can influence decisions. The last aspect is extrapolated from Lukes' (1974) radical understanding of power, where power is manipulative, with the primary goal of controlling what people think is right, leading to the acceptance of biased decisions without question.

Feminist writers highlighted how such aspects of power all depart from an understanding of power as having control over it. It is built on ideas of force, coercion, oppression, and domination. Allen (1998) distinguished between different power dynamics and argued that power is not only about control over. Whilst' power over' refers to the ability of the power to affect the actions and thoughts of the powerless, there is also 'power to', which indicates the capacity to act, exercise agency, and realise the potential of rights, citizenship, or voice. This is what empowerment is about. 'Power within' often refers to gaining a sense of self-identity, confidence and awareness that is a precondition for action. And 'power with' refers to the synergy that can emerge through partnerships and collaboration with others or through collective action and alliance-building processes. 'Power with' requires respect, trust, solidarity, and mutual support.

Feminist political ecology goes beyond the narrow understanding of power. Feminist political ecology conceptualises power as a) relational (domination), and b) empowerment, as alluded to by Allen (2005).

5.2.1. Power as Relational (Domination)

The conceptualisation of power as relational (domination) comes from critiquing feminists who view power as a resource that can be distributed. Young (1990) contends that power cannot be possessed. The author views power as a relation. She argues that the distributive model tends to presuppose a dyadic, atomistic understanding of power; as a result, it fails to illuminate the broader social, institutional, and structural contexts that shape individual relations of power (Young, 1990). Feminists who are influenced by phenomenology, radical feminists, Marxist (socialist) feminism, intersectional feminism, post-structural feminism, post-colonial and decolonial feminism and analytic feminism all have a common understanding that power relational and that social relations are tightly defined by domination and oppression (Allen, 2005).

5.2.2. Power as Empowerment

Allen (2005) argues that there is a narrow understanding of power, as power-over, domination, or control is implicitly masculinist. Allen (2005) contends that feminists from various theoretical backgrounds have argued for a re-conceptualisation of power as a capacity or ability, specifically, the capacity to empower or transform oneself and others. This understanding of power moves away from the conceptualisation of power-over but the conceptualisation of power-to. However, Wartenberg (1990) argues that the feminist understanding of power-to, which he calls transformative power, is actually a type of power-over, though one that is distinct from domination because it aims at empowering those over whom it is exercised.

5.2.3. Power in South African IWRM Institutions

Despite the above understanding of power from the FPE perspective, water resources management in South Africa illuminates various power dynamics in the decentralised institutions of participation. In South Africa, access to water resources, access to the management of water resources and access to participation in other decision-making processes of the water resources are influenced by how much power an individual or a particular group of people have. Through evidence analysis, this Paper shows that there are three main power dynamics in the water resources management institutions in South Africa: relational power, power over and manipulative power.

a) Relational Power

Many studies show that white farmers who benefited from the apartheid system that gave them privileges and economic advantages continue to have access to data systems of the water resources in their WUAs and are reluctant to share such information with their black counterparts because they protect their privileges. This is a classic relational power, a system of ruling elites where few people have significant power. The white commercial farmers refuse to share power with their black counterparts, as indicated by the findings of the study done by Van Wyk et al. (2006); Waalewjin et al. (2005). Without the sharing of the information, black farmers have no meaningful participation in the WUA processes; this gives the white commercial farmers an advantage in making decisions (Nel et al., 2015; Van Wyk et al., 2006; Waalewjin et al., 2005) that serve their interests and reinforce inequalities. The white commercial farmers then tend to exert their power over the small-scale black farmers because of their resources.

b) Power Over the Agenda

Bachrach and Baratz (1962) argue that decisions are made within a complex system in the power-over aspect. So power is not only about making decisions but also about setting the agenda that leads to decisions. Those who possess this power control the context within which decisions are made, thus influencing those decisions. An example of this type of power aspect from the thesis findings is the case study in the Crocodile-Mario river system and the Inkomati WMA, where the disfranchised group blacks are expected to participate in IWRM bodies (Foster et al., 2017). But they had no means of transport (or resources for transport costs) to attend meetings of such bodies. Financial means then become an obstacle to their participation. What happens is that power rests with the white commercial farmers to influence the events in the WUA. They choose the venue for meetings and set the agenda, mostly without consideration of the realities of others, thus excluding the previously disadvantaged individuals (Denby et al., 2016; Foster et al., 2017; Lotz-Sisitka and Burt, 2006). In this way, the white commercial farmers control the context in which decisions are made and the agenda about what decisions are prioritised and made.

c) Manipulative Power

The last form of power is extrapolated from Lukes' (1974) radical understanding of power. This form of power is regarded as a manipulative power where the main goal is to control what people think is right, and this form of power can lead to the acceptance of biased decisions without question. My findings reveal that this form of power is often linked to the land being used as a prescript to cement power and decisions being made without it being questioned. The power to participate in the decision-making processes of WUAs is enabled by land ownership, leaving those who do not have property being excluded in participating in economic activities and water resources management (Marcatelli, 2018). Land ownership is intrinsically linked to power because it influences engagement in the IWRM institutions of participation, such as the WUAs. The dynamics of land ownership in South Africa and its relation to power, even in the water sector, goes back to the Land Act of 1913. From 1913 until 1993, the period for black South Africans represented powerless, asset-less and socially despised previously marginalised people of this country. It was a period of deprivation and discrimination. I refer to the weak economic status and smaller land assets of previously marginalised people by deprivation. It is well known that land is a passport to privileges, including economic activities and water itself. Therefore, previously marginalised people in South Africa have little access to it (Phansalkar, 2007; Thangraj, 2006). Women and blacks, in general, have little power in making decisions related to water access and management because of a lack of land ownership. And when they participate in these IWRM institutions, such as WUAs, they are manipulated into agreeing to things others decide.

5.3. Equity

The notion of equity is often overlooked in preference for equality, and that has a substantial and residual value element that defines it. Equity is a principle that promotes justice and fairness.

At an analytical level, this Paper uses FPE to advocate for an egalitarian distribution and responses to the legislative stance on equitable share and access to resources in order to ensure fairness and achieve social justice. To achieve equity in the water sector, six principles, as highlighted by Pena (2011), which should be read using the FPE lens, need to be considered:

(a) By equity, it should mean the needs and rights of people

By water needs and rights, it means we should move away from restricting water to a specific limit and look at satisfying the needs and rights of people. This will consider each person's different water-use preferences (Pena, 2011; Whiteley *et al.*, 2008).

(b) The totality of benefits must be considered

Water has many benefits, and those who were previously deprived of this precious resource should not only be given access to potable water. Different benefits of water must be considered, including the indirect benefits, environmental benefits, and other externalities (Marmot *et al.*, 2008; Pena, 2011).

(c) Equal opportunities, maintaining fair play, and procedural justice, in general, are fundamental components of social justice

The soft aspect of water management must be given attention. This includes mechanisms that promote diverse participation, conflict resolution, capacity building for water users and agreement on the rules that determine fair play. Efforts have been made in South Africa to establish WUAs to promote participation. However, these associations are still dominated by white male farmers, and in some cases, black males use cultural norms as a ticket to have more power than women. Therefore, diverse views are not fully realised. This needs to change if equity is addressed in South Africa (Humphreys and Robinson, 2010; Luh *et al., 2013;* Pena, 2011).

(d) The needs and ethical principles that are recognised as basic by society must be prioritised

It might seem to be a repetition of information. Still, the principles of non-discrimination and access to basic needs that societies have put forward need to be taken seriously. Even though such principles have been incorporated into the concept of human rights, they are indispensable in creating an equitable situation (Bruns and Meinzen-Dick, 2000; Pena, 2011).

(e) The present situation regarding equity must be analysed within the framework of the historical processes that led to it and its current dynamics

South Africa is diverse, with different cultures having different epistemological views. Therefore, the current distribution of benefits from water in South Africa can be understood in various cultural, economic, social, and political factors that have influenced its historical development (Cole, 2012; Pena, 2011).

5.3.1. Equity in the Water Resources Management in South Africa

Equity in the access and management of water resources in South Africa is still a pipedream. This Paper has explained how manipulative power in South Africa has manifested in water resources management and the linkage towards the Land Act of 1913. There are various forms of equity that South Africa has failed to achieve when it comes to water resources management.

The first form of equity is social equity, which refers to the principle of achieving fairness and justice for people who were and continue to be marginalised. In understanding the management of water resources, one must note that social equity has not been achieved as blacks in general and women in particular still find themselves as spectators in the decentralised institutions of participation such as the water user associations and irrigation boards. This group is not part of the decision-makers in those institutions, but just spectators. Suppose social equity is about fairness and justice. In that case, black people must not be seen as visible entities in these institutions but active participants who are given a chance to make decisions without being manipulated.

The second form of equity is gender equity. The Paper has found that women continued to be marginalised in the decision-making processes. Women are often the victims of manipulative power, where men use traditional or cultural norms to foster the idea of manipulative power and use it to advance their group's agenda to ensure exclusion and domination over women. The studies conducted by Mjoli and Nenzhelele (2009), in Mutale (Limpopo), Mutshimbwe (Limpopo), Nzhelele (Limpopo), Middle Letaba (Limpopo), Bushmans River (KZN), and Imfunda YoPhongola (KZN) WUAs also found that power dynamics are expressed through patriarchal norms. Thus, this shows us that the issue of inequalities between races and genders becomes an impediment to achieving equity in the access to resources and in the management of the resources because power dynamics tend to shift the focus away from critical issues of the society that needs to be addressed. The Department of Water and Sanitation, on the other hand does not have any practical solutions to address these gender imbalances which are sustained by traditional and cultural norms.

The last form of equity is intergenerational equity which seeks to ensure the enjoyment of natural resources, including water, across generations of people (Divan and Rosencranz, 2005; Saleth and Dinar, 2004; Phansalkar, 2007). However, from the thorough evidence synthesis – from the studies conducted by Denby et al. (2016), Förster et al. (2017), Kemerinka et al. (2013), Lotz-Sisitka and Burt (2006), Nel et al. (2015), van Wyk et al. (2006), and Waalewijn et al. (2009) – we see that the enjoyment of water resources across generations of people only happen to one group. The white people of South Africa have enjoyed having access to water resources since the formation of the South African Union in 1910. Through the promulgation of different legislations, we see that white farmers, in particular, are the ones that enjoys

having access to water resources. Failure to implement the WAR programme means that white farmers will continue to have unabated generational enjoyment of water resources.

6. Discussion on the Three Social Dimensions in Water Resources Management in South Africa

The three social dimensions of participation, power, and equity in water resources management, must be seen not as individual factors but as co-creative, context-driven, and interconnected elements. The theoretical lens of feminist political ecology has helped illustrate their complexity and depth, and equity now requires the same critical reflection. Quimby and Levine (2018) argue that measures or goals that focus on just one of these factors are also incomplete without acknowledgement of how power, participation, and equity shape each other. Bringing these three concepts together makes their interrelationships and importance for enabling key management principles more visible, but also shows the work still required to define them and put them.

The feminist political ecology approach has shown that the right to water and gender equity are linked—the former can enable the latter, and the latter cannot be achieved without the former. However, the scholarly debate about the water right both in the management and access underscores the need for greater focus on power relations in decision-making about water, who gets water and who does not, how water becomes accessible and available, with what means and ends and how water governance is enacted across sites scales (Sultana and Loftus, 2012).

Water justice requires attention to the right to water and gendered power relations in local water governance and lived water realities. Providing water will not bring about all women's empowerment equally, as intersectionality analyses demonstrate that gender is co-constitutive of class and race. However, not having water will impair the goals of gender equity. Each imperative thus must co-exist and co-evolve contextually to ensure equity, participation, and justice (Sultana, 2021).

Conclusion

This Paper has shown how water is a contested resource and that the three social dimensions of participation, power and equity are often overlooked when policies, strategies and legislative frameworks are promulgated. The IWRM, a paradigm adopted by the South African government to manage its water resources, calls for decentralisation to ensure effective and inclusive participation. The Paper has shown that the participation discourse draws attention away from the genuine social and economic differences between people and the need to redistribute resources, entitlements, and opportunities to achieve equity. The obsession with the participation of previously disadvantaged individuals in IWRM without changing the structural injustices that continue to entrench inequalities makes the issue of equity remain just a dream. The evidence synthesis of various literature indicates that despite water being regarded as one of the pillars that can be used to fight inequalities, it remains inaccessible to others. By inaccessible, the Paper means not have quality, the right quantity, and ease of access to water.

References

Allen, A. 1998. Rethinking Power, *Hypatia*, 13: 21–40.

Allen, A. 2005. Feminist perspective on power. In Zalta EN (ed). *The Standford Ecyclopedia of Philosophy*. https://plato.stanford.edu/archives/win2021/entries/feminist-power/. Accessed, 06 August 2022.

Arnstein, S. 1969. A ladder of citizen participation. *Journal of the American Institute of Planners*, 35(4): 216-224.

Bachrach, P., Baratz, M. 1962. Two faces of power. *American Political Science Review*, 56: 947-952.

Bassett, TJ., Peimer. AW. 2015. Political ecological perspectives on socioecological relations. *Natures, Sciences, Sociétés* 2:157–165.

Berjak, L. 2003. *Water resource management in South Africa* (Masters' dissertation). Pitermaritzburg: University of Natal.

Biersack, A., Greenberg, JB. 2006. *Reimagining political ecology*. Durham, NC: Duke University Press.

Blomquist, W., Dinar, A., Kemper, K. 2005. *Comparison of institutional arrangements for river basin management in eight basins* (World Bank Policy Research Working Paper 3636). Washington DC: World Bank.

Bowen, GA. 2009. Document analysis as a qualitative research method. *Qualitative research journal*, 9(2):27-40.

Bruns, BR., Meinzen-Dick, RS. (eds) 2000. *Negotiating water rights*. New Delhi: Vistaar Publications.

Bryant, RL. 1998. Power, knowledge and political ecology in the third world: A review. *Progress in Physical Geography*, 22(1): 79-94.

Butzer,K.1989.Cultural ecology.In C.J.Wilmott and G.L.Gaile.*Geography in America*. New York: Merill.

Cole, S. 2012. A political ecology of water equity and tourism: A case study from Bali. *Annals of Tourism Research*, 39(2): 1221-1241.

Corbin J, Strauss A. 2008. *Qualitative research*, 3rd ed. Sage Publications, California.

Cornwall, A. 2008. Unpacking 'participation': Models, meanings and practices. *Community Development Journal*, 43(3): 269-283.

Dahl, RA. 1957. The concept of power. *Behavioral Science*, 2(3): 201-215.

Denby, K., Mvik, S., Mehta, L., van Koppen, B. 2016. The 'trickle down' of IWRM: A case study of local-level realities in the Inkomati Water Management Area, South Africa. *Water Alternatives*, 9(3): 473-492.

Denzin NK, Lincoln YS. 2000. Introduction: the discipline and practice of qualitative research. In: NK Denzin, YS Lincoln, eds. *Handbook ofqualitative research.2nd ed*. Thousand Oaks, CA: Sage, 1-28.

Divan, S., Rosencranz, A. 2005. *Environmental law and policy in India* (second edition, seven imprint). New Delhi: Oxford University Press.

DWA. 2013. *National Water Resources Strategy: Second edition.* Pretoria. DWA

DWAF. 2005. *Mzimvubu to Keiskamma Water Management Area 12: Internal strategic perspective of Mzimvubu to Mbashe ISP Area*. Pretoria: DWAF.

DWAF. 2006. *Water management institutions overview*. Pretoria: DWAF. http://www.dwa.gov.za/documents/publications/WMIoverview.pdf. Accessed 07 July 2018.

DWAF. 2009. *Water For Growth and Development Framework (version 7)*. Pretoria: DWAF.

Elias, F. 2017. The practice of integrated water resources management in South Africa: Challenges of women in water user associations. *Geoscience Journal*, 82: 1165-1177.

Elias, M., Joshi, D., Meinzen-Dick, R. 2021. Restoration for whom, by whom? A feminist political ecology of restoration. *Ecological Restoration*, 39(1-3): 3-15.

Elmhirst, R. 2011. Introducing new feminist political ecologies. *Geoforum* 42:129–132.

Elmhirst, R. 2015. Feminist political ecology. In: Perreault T, Bridge G andMcCarthy J (eds) *The Routledge Handbook of Political Ecology*. Abingdon: Routledge, 519–530. DOI: 10.4324/9781315759289.ch4.

Fiske, ST. 1993. Controlling other people: The impact of power on stereotyping. *American Psychologist*, 48: 621-628.

Flick, U. 2002. *An introduction to qualitative research (2nd ed.)*. London: Sage Publications

Förster, JJ., Downsborough, L. and Chomba, MJ. 2017. When policy hits practice: Structure, agency, and power in South African water governance. *Society & Natural Resources*, 30(4), pp.521-536.

Fritsch, O., Benson, D. 2013. Integrating the principles of IWRM river basin planning in England and Wales. *International Journal of Water Governance*, 1(3-4): 265-285.

Galinsky, AD., Magee, JC., Inesi, ME., Gruenfeld, DH. 2006. Power and perspectives not taken. *Association for Psychological Science*, 17(12): 1068-1074.

Gaventa, J. 2006. Finding the spaces for change: A power analysis. *Institute of Development Studies*, 37(36): 23-33.

Goldin JA (2010). Water policy in South Africa: Trust and knowledge as obstacles to reform. *Review of Radical Political Economics* 42(2): 195-212.

Haeffner, M., Hellman, D, Cantor, A., Ajibade, I, Oyanedel-Craver, V., Kelly, M., Schifman, L., Weasel, L. 2021. Representation justice as a research agenda for socio-hydrology and water governance. *Hydrological Sciences Journal*, 66(11): 1611-1624.

Humphreys, S., Robinson, M. (eds) 2010. *Human rights and climate change*. Cambridge: Cambridge University Press.

Kemerink, JS., Méndezb, LE., Ahlersa, R., Westerc, P., van der Zaaga, P. 2013. The question of inclusion and representation in rural South Africa: Challenging the concept of water user associations as a vehicle for transformation. *Water Policy*, 15: 243-257.

Khan, MT., Lynch,. TL. 2013. The genealogy of contemporary nature/forest conservation. Human Geography. *A New Radical Journal* 6(3): 105-120.

Labuschagne,A.2003.Qualitative research: Airy fairy or fundamental.*The qualitative report*,8(1):100-103.

Langer, L., Tripney, J., Erasmus, Y., Tannous, N., Chisoro, C., Opondo, M., Zigana, L., Obuku, E., van Rooyen, C., Stewart, R. 2017. *Women in wage labour: A systematic review of the effectiveness and design features of interventions supporting women's participation in wage labour in higher growth and/or male-dominated sectors in LMIC - A systematic review protocol*. London: EPPI-Centre, Social Science Research Unit, Institute of Education, University College London.

Lotz-Sisitka, H., Burt, J. 2006. *A critical review of participatory practice in integrated water resource management* (WRC Report No: 1434/1/06). Pretoria: WRC.

Luh, J., Baum, R. and Bartram, J. 2013. Equity in water and sanitation: Developing an index to measure progressive realization of the human right. *International Journal of Hygiene and Environmental Health*, 216(6): 662-671.

Luke, S. 1974. *Power: A radical view*. London: Macmillan Press.

Marcatelli, M. 2018. The land-water nexus: A critical perspective from South Africa. *Review of Political Economy*, 45(157): 393-407.

Marmot, M., Friel, S., Bell, R., Houweling, TA., Taylor, S. 2008. Closing the gap in a generation: Health equity through action on the social determinants of health. *The Lancet*, 372(9650): 1661-1669.

Miles, M. B., Huberman, MA. 1994. *Qualitative data analysis: An expanded sourcebook*. (Second). Thousand Oaks, CA: Sage.

Mjoli, N., Nenzhelele, R., Njiro, E. 2009. *Assessment of gender equity in water user associations* (WRC Report No: KV 219/09). Pretoria: WRC.

Mohan, G., Stokke, K. 2000. Participatory development and empowerment: The dangers of localism. *Third World Quarterly*, 21(2): 247-268.

Nel, JL., Roux, DJ., Driver, A., Hill, L., Maherry, AC., Snaddon, K., Petersen, CR., Smith-Adao, LB., Van Deventer, H., Reyers, B. 2015. Knowledge co-production and boundary work to promote implementation of conservation plan. *Conservation Biology*, 30(1): 176-188.

Pena, H. 2011. *Social equity and integrated water resources management*. Stockholm: Global Water Partnership.

Phansalkar, SJ. 2007. Water, equity and development. *International Journal of Rural Management*, 3(1): 1-25.

Phansalkar, SJ. 2007. Water, equity and development. *International Journal of Rural Management*, 3(1): 1-25.

Pretty, J. 1995. Participatory learning for sustainable agriculture. *World Development*, 23(8): 1247-1263.

Quimby, B., Levine, A. 2018. Participation, power, and equity: Examining three key social dimensions of fisheries comanagement. *Sustainability*, 10: 1-20.

Rocheleau, D. 2015. A situated view of feminist political ecology from my networks, roots and territories. In Harcourt, W. and Nelson, I. (eds). *Practising feminist political ecologies: Moving beyond the green economy*. London: Zed Books, 29-66.

Saleth, RM., Dinar, A. 2000a. Institutional changes in global water sector: Trends, patterns, and implications. *Water Policy*, 2: 175-199.

Stake RE. 2000. Case studies. In *Handbook of qualitative research*, eds NK Denzin and YS Lincoln, 435 –454.Thousand Oaks, CA: Sage Publications Inc.

Sultana, F. 2020. Political ecology I: From margins to centre. *Human Geography*, 1-10.

Sultana, F. 2021. Gendering the human right to water in the context of sustainable development. In Sowers, J., Van Deveer, SD., Weinthal, E (eds). *The Oxford Handbook of Comparative Environmental Politics*. Oxford University Press,.

Sultana, F., Loftus, A. 2012. The right to water: Prospects and possibilities. In Sulatana, F., Loftus, A (eds). T*he right to water: Politics, governance and social struggles*. New York: Taylor and Francis: 1-18.

Sunberg, J. 2017. Feminist political ecology: Sites of inspiration and formation. In Richardson, D. (ed). *The international encyclopedia of geography*. Wiley-Blackwell.

Thangraj, M. 2006. *Dalits and water.* Paper presented at the IWMI-Tata water policy program annual partners' meeting in Gujarat.

Van Buuren, A., Van Meerkerk, I. and Tortajada, C. 2019. Understanding emergent participation practices in water governance. *International Journal of Water Resources Development*, 35(3):367-382.

Van Wyk, E., Breen, CM., Roux, DJ., Rogers, KH., Sherwill, T., van Wilgen, BW. 2006. The ecological reserve: Towards a common understanding for river management in South Africa. *Water South Africa,* 32(3): 403-409.

Van Wyk, E., van Wilgen, BW., Arendse, LI., Breen, CM., Magadlela, D., Rogers, KH., Sherwill, T., Sihlope, N., Zeka, S. 2006. *The governance of shared river resources: Towards sustainable relationships for achieving equitable trade-offs* (Water Research Commission Report No: 1294/1/06). Pretoria: WRC.

Waalewijn, P., Wester, P., van Straaten, K. 2009. Transforming river basin management in South Africa: Lessons from the Lower Komati River. *Water International*, 30:2: 184-196.

Warner, J., Wester, P., Bolding, A. 2008. Going with the flow: River basins as the natural units for water management. *Water Policy*, 10(2): 121-138.

Wartenberg, T. 1990. *The Forms of Power: From Domination to Transformation*, Philadelphia: Temple University Press.

Whiteley, JM., Ingram, HM., Perry,RW.(eds) 2008.*Water, Place, and Equity*.Cambridge,MA: MIT Press.

Wolf, E. 1972. Ownership and political ecology. *Anthropological Quarterly,* 45: 407-416.

Yin RK. 2003. *Case study research; designs and method*, 3rd edn.Thousand Oaks, CA: Sage Publications, Inc.

Young, IM. 1990. *Justice and the Politics of Difference*, Princeton: Princeton University Press.

Young, LM. 2000. *Inclusion and democracy*. Oxford: Oxford University Press.