Public participation in achieving Social Justice within the Upper Vaal Water Management Area.

Tsholofelo Molatelo Lucretius Baloyi

A research report submitted to the Faculty of Management, University of the Witwatersrand, in 50% requirement of the requirements for the degree of Master of Management (in the field of Governance).

March 2023

Declaration

I declare that this report is my own, unaided work. It is submitted in partial fulfilment of the requirements of the degree of Master of Management in the field of Governance at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination in any other university.

_____

Tsholofelo Molatelo Lucretius Baloyi

March 2023

Acknowledgements

My sincere gratitude to my mother who is selfless and ensured that I am an educated, young lady. Your kindness and assuring nature is most appreciated.

To Prof Murray, my supervisor, your contribution towards my studies and the laughter we shared throughout this journey is greatly appreciated. Your encouragement, patience and continued support provided me the opportunity to keep going even when I had lost hope. Thank you.

Lastly, to my dear friend Komla Atta. For always believing in me. This is for us buddy and to more!

Table of Contents

List of Figures

List of Tables

List of Abbreviations

Abbreviations	Full description
CMA	Catchment Management Agency
DEA	Department of Environmental Affairs
DWS	Department of Water and Sanitation
EIA	Environmental Impact Assessments
IAIA	International Association for Impact Assessment

IWRM	Integrated Water Resource Management
NEMA	National Environmental Management Act, 107 of 1998
NWA	National Water Act, 36 of 1998
PAJA	Promotion of Administrative Justice Act 3 of 2000
TSF	Tailings Sludge Facility
WULA	Water Use Licence Administration
WGI	Water Governance Initiative
WMA	Water Management Area

Abstract

Public participation promotes the democratic rights of individuals and communities in South Africa within the Integrated Water Resource Management framework. Public institutions are responsible for managing public participation in ensuring social justice. However, little work has been done to understand their public participation institutional arrangements. Public participation ineffectively managed creates mistrust among the public and may contribute to misinterpretations and conflict during project management. Insufficient public participation might be contributed to the limited knowledge on the subject matter, the limitation of accessing the information, or, the socio-economic conditions of stakeholders. This study conducted interviews, which were thematically constructed by using the Social Justice Framework. In ensuring fairness during the decision-making processes, the study also assessed EIAs deducted from issued Water Use Licences to make inferences on the management of public participation within the Upper Vaal Water Management Area.

The study found that the regulatory guidelines and standards needed to be reviewed to improve the participation processes, that the existing intergovernmental relationships were mismanaged and that marginalized groups are excluded during the decision-making processes within the Integrated Water Resources Management framework. The Department of Water and Sanitation in its efforts to decentralize water resources management, needs to improve its policies and the management of public participation.

Chapter 1: Introduction

This chapter unpacks the concept of public participation, integrated water resources in South Africa and the study area, the Upper Vaal Water Management Area (WMA) and the role of Environmental Officers during Integrated Water Resource Management (IWRM). Furthermore, it provides the different types of water use activities and procedural requirements for authorizing these activities. This chapter provides information on social justice theory and problem statement this research is addressing as well as the research objectives.

This research focuses on the management of public participation in the Upper Vaal WMA administered by the Department of Water and Sanitation (DWS) and the contribution towards social justice by interested and affected stakeholders during the public participation processes.

In the WMA, participatory practices are implemented through the IWRM, which supports the White Paper on the National Water Policy goals towards ensuring equitable, fair, inclusive, transformative practices and institutional arrangements in managing the nation's water resources (Department of Water Affairs, 1997). IWRM is a process of managing and developing water resources to improve their quality while considering the impact of environmental projects on the socio-economic state of the country (Saravanan, McDonald & Mollinga, 2009). Public participation is a critical element of the IWRM as it requires water to be managed in a coordinated manner. The Department of Water and Sanitation has processes and tools such as the Water Use Licencing Administration process and Environmental Impact Assessments to control activities, enforce compliance, promote public participation, and protect water resources.

This research utilizes the Social Justice Framework, which is an accumulation of justice theories from the social psychology literature, as a tool to examine whether public participation processes by the Department achieves equity, transformation, aims towards good governance and considers the views of the affected and interested parties.

1.1. Public participation during policy and project implementation.

Public participation is defined as the integration of users interests and views when designing policy (Barnes, 1999), which should incorporate the needs, concerns and values of society into government policies and corporate strategies (Creighton, 2005). Public participation considers the social, cultural, historical and political aspects of societies (Ashton, Turton, & Roux, 2006) and aims to redress the impacts of the past to include the previously disadvantaged individuals and excluded in decision-making (Boakye & Akpor, 2012). The process is central to both policy and project implementation as it improves legitimacy and democracy (Van Der Heijden & Heuvelhof, 2012). The term public participation, public engagement and stakeholder consultation tend to be used interchangeably in this field. This report commonly utilizes the term “public participation” however, it may also be used interchangeably in this study may use

The management of the public participation process by project managers is a concern as it may potentially inhibit the voices of stake holders in decision-making (Quick & Bryson, 2016). It is important to ensure that all interested and affected stakeholders invited during public participation can contribute their views or concerns, which will allow projects to be transformative and inclusionary. It is also important to recognize that public participation provides an opportunity for the voices of people to be considered during both project and policy implementation. However, it does not guarantee that the stakeholders and project beneficiaries will be more accepting of the project.

The concept of effective public participation is important and has the potential to develop the stakeholders, be transformational through facilitative leadership, contribute towards social learning, improve the publics’ confidence, and provide social capital. However, the drawbacks include that the process might be costly, time consuming and challenging (Chan, Krishnamurthy, Mann & Sabherwal, 2022). Public participation may be futile in instances where decisions have been effectively taken without consideration of public values; where the process is merely completed for

procedural and legislative compliance, or when it is completed as a tick-box exercise for the sole benefit of the project manager (Leonard, 2017).

Perspectives differ when measuring the success of public involvement between project managers, the community and the Department. Various principles exist for evaluating the effectiveness of public participation. These include, aligning the process to the project objectives; interrogating the activities and resource distribution during the project lifecycle related to the project; the data collection methods and the level of interaction with the stakeholders. It also includes the level of engagement and the experiences of and the responses by the project leaders to the concerns provided during the process (Warburton, Wilson, & Rainbow, 2007). The importance of evaluating the management of public participation performance of project outcomes improves legitimacy, improved accountability, transparency, and improved governance.

1.2. Democratic water governance.

Water governance assesses the distribution and networks of influence within the IWRM, the administrative and political systems as well as the relations between government and its society (Rogers & Hall, 2003). The World Water Forum in 2002 found that the water crises have been a product of water governance with an emphasis to create a synergy between social, economic and environmental needs (Hukka, Castro, & Pietilä, 2010). The OECD Water Governance Initiative (WGI), comprising more than 100 delegates from multi-sectors, developed principles on water governance. These are clustered around three topics: effectiveness, efficiency, trust and engagement. It found that it is important that government institutions maintain public values and ensure consultations at all levels of the policy making process. (Akhmouch, Clavreul & Glas, 2018). This emphasizes the need for public institutions to promote public participation – a key in realising a democratic state.

The Global Water Partnerships, which is an international network formed to foster IWRM, warn that to achieve effective water governance, collaborations are necessary between the private and public institutions, which operate within an

enabling environment while considering the needs of stakeholders (Rogers & Hall, 2003). Water governance is considered a contributor to the sustainable management of water resources in the presence of a reliable law, functional political systems and a network of institutional arrangements as it exercises political, social and administrative functions which affect water resource management (Hukka et al., 2010). It is important to recognize that governance structures can fail or have limitations due to the fact that water is both a public and economic good susceptible to government or market failures (Rogers & Hall, 2003). This partnership has qualities for effective water governance that entail that policy decisions need to be transparent, have inclusive participatory processes, possess coherent political will and that the processes should promote equity and ethics. Water governance improves accountability and social responsibility of the authorities, project manager and stakeholders in environmental management. (Lai & Hamilton, 2020).

Historically, South Africa was governed by a myriad political authorities including tribal authority, the British Empire, and the apartheid government, which presented an authoritarian approach in water governance and evolved to a democratic state which aims to reflect the needs of multiple stakeholders (Movik, Mehta, van Koppen & Denby, 2016). This country now has a multilevel governance framework for water resource management embedded within the participatory processes which led to the promulgation of the National Water Act, 36 of 1998 (NWA) (Meissner, Stuart-Hill & Nakhooda, 2017). The governance processes should assess the political equality and legitimacy of stakeholders and whether the agreements taken were effectively implemented (Fung, 2006).

1.3. The Department of Water and Sanitation and the Integrated Water Resource Management.

South Africa is a water scarce country which needs innovative interventions and various agents to ensure sustainable and resilient water resources (Masindi & Duncker, 2016). It is considered a semi-arid country with one of the lowest conversions of rainfall to usable runoff rivers with a mean annual rainfall of 475 mm/yr in comparison to the global 860 mm/yr (Swatuk, 2010). Water is a vulnerable resource

which supports the livelihood of communities, the environment, and is a key contributor to economic development (Thomas & Durham, 2003). The National Water Act, 36 of 1998 (NWA) defines a water resource as water bodies that exist in various forms including a water course, surface water, ground water, estuaries, or aquifers.

The IWRM is a process that relies on synchronized actions that promote sustainable development and transparent activities during water resources management while considering the social and economic factors (Saravanan et al., 2009). The management thereof relies on the existence of science, technology and stakeholders as key agents that will uphold the integrity of the water resources. The IWRM approach is a measure to improve and manage water resources in a manner that can ensure access for current and future water users while providing reserves for ecological protection. IWRM might vary in definition for various areas worldwide as the challenges and system for measure varies.

The NWA supports the needs for IWRM through coordinated actions from interested and affected stakeholders and a decentralized water resource management approach to allow efficient and effective usage of water resources. The NWA (p3) provides the fundamental water reform by recognizing that,

> *Recognizing that while water is a natural resource that belongs to all people, the discriminatory laws and practices of the past have prevented equal access to water and use of water resources… ..Recognizing the need for the integrated management of all aspects of water resources and, where appropriate, the delegation of management functions to a regional or catchment level to enable everyone to participate* (National Water Act, 1998, p3).

The NWA is a tool that seeks to achieve democracy and social justice in managing water resources. The Department regulates water use activities such as agricultural activities, commercial water users, recreational usage, power generation and domestic activities which rely and impact on a water resource. The water users are considered stakeholders as they have a vested interest or may potentially be

affected by the water use activities. The stakeholders may be regulators, commercial water users and business, government authorities, consultants, service providers, project managers and the community. These stakeholders are key in promoting IWRM and ensuring an inclusive public participation process.

In effectively managing the IWRM process, it is important to comprehend the context in which the system is operated. This includes the challenges, opportunities, climate conditions, institutional landscape, politics, economics, cultural beliefs and the community involved. The term integrated within the IWRM includes the involvement of governmental administrators, communities located upstream and downstream of the relevant water resources, transboundary water usage authorities, environmentalists, and legal practitioners during the decision-making process within the policy and project implementation. The Department, as the custodian for water resources, has implemented various instruments such as the Water Use Licence Authorization process and Environmental Impact Assessment tools to manage activities that impact on water resources.

IWRM is based on three principles, namely, sustainability, equity and economically efficient usage of natural resources. The IWRM process should address the various governance challenges in a larger context by ensuring a nexus between developmental plans, protection of water resources and the involvement of stakeholders (Saravanan et al., 2009). Challenges however exist in achieving a complete integration due to the different power dynamics and social constructs which affect the process. In realizing these challenges, the IWRM aims to address common challenges such as the provision of safe drinking water and safe sanitation practices, the availability and protection of freshwater resources, food security as well as disasters such as floods and governance issues.

The DWS is accountable for the nation’s water resources and sets strategies to ensure their effective management. The strategies and policies that guide the DWS include the Constitution of South Africa of 1996, the National Development Plan, the White Paper on National Water Policy of 1997, the National Water Act, Act 36 of 1998

(NWA), the Water Services Act, 108 of 1997, the National Water Resource Strategy 2 and the National Water and Sanitation Master Plan. The Department is faced with an array of challenges during the IWRM such as water scarcity, catering to the demands to meet food production, urbanization, unlawful water use activities, water quality deterioration of freshwater bodies and an influx of high nutrient contents which may result in eutrophication[1] caused mainly by release of sewage and fertilizers from the agricultural user (Agarwal et al,. 2002).

The Department recognizes the IWRM as a tool that may contribute towards social justice as it requires public participation processes to consider the interests of affected parties to ensure democratic representation (Muro & Jeffrey, 2012) and redress from a rights-based water allocation to an interest-based water allocation practice (Ashton et al., 2006). The legislation allows the Department to implement a water allocation reform strategies to redress the impact of past actions and ensure social justice. IWRM aims to enhance collaborative efforts and achieve equity in the distribution and management of water resources considering that water is an economic and a social resource.

1.4. Integrated Water Resource Management within the Upper Vaal Water Management Area

The DWS is responsible for protecting and managing water resources in South Africa at a catchment level within the defined WMA. The institutional arrangements for decentralizing water resources management functions within a catchment area may be delegated to a Catchment Management Agency, Water User Associations and Irrigation Boards which operate at a localised level. The DWS is in the process of establishing Catchment Management Agencies and the DWS carries out water resource management functions in the absence of a Catchment Management Agency and Irrigation Boards continue to exist until they are transformed into Water User Associations (Karar, Mazibuko, Gyedu-Ababio, & Weston, 2011). The DWS Gauteng

[1] Eutrophication is defined as a deterioration of water quality mainly attributed to excessive nutrients, particularly nitrogen and phosphorus (Burkholder, Tomasko & Touchette, 2007).

Provincial Office is responsible for managing water resources located within the Upper Vaal WMA.

The Department has decentralized the management of water resources and divided the country into 19 water management areas (WMAs), namely Berg Water, Breede, Crocodile (West) and Marico, Fish to Tsistsikama, Gouritz, Inkomati, Limpopo, Lower Orange, Lower Vaal, Upper Vaal, Middle Vaal, Upper Orange, Levubu-Lethaba, Mvoti to Umzimkhulu, Mzimvubu to Keiskamma, Olifants, Olifants/Doorn, Thukela and Usuthu to Mhlatuze WMA (Munnik et al., 2016).

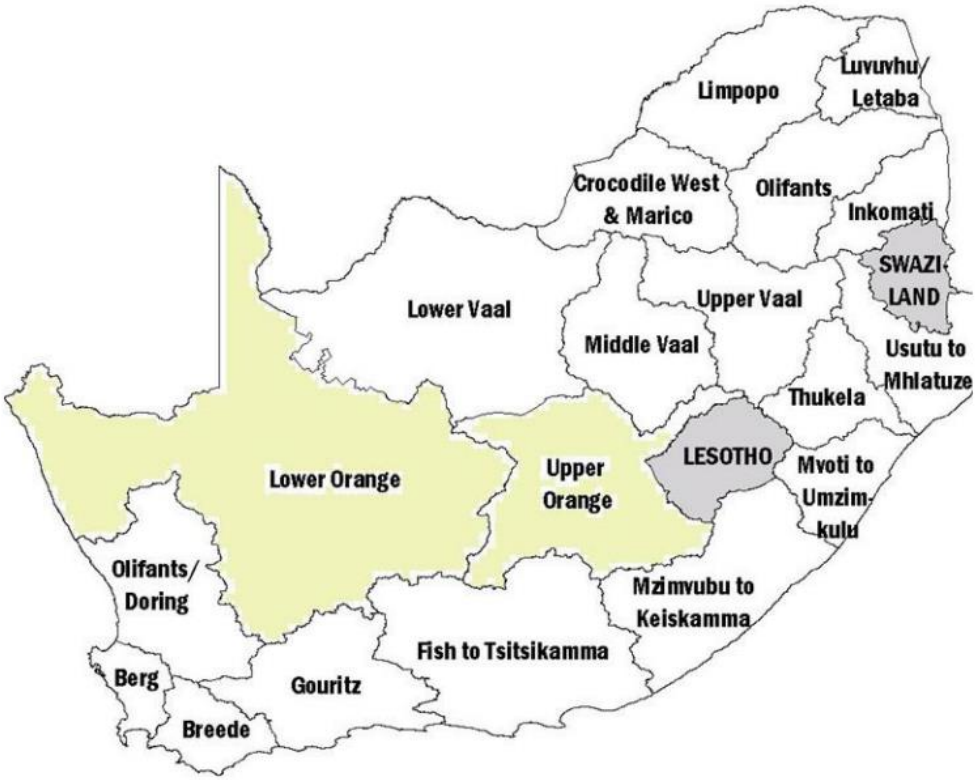

Figure 1 Map of the 19 Water Management Areas in South Africa

Source: Munnik et al., 2016

The major rivers within the Upper Vaal WMA include the Vaal River, Wilge River, Waterval, Suikderbosrand and Mooi Rivers stretching in parts of Mpumalanga, Free State, Gauteng, and North-West provinces (Basson, & Rossouw, 2003). The

Vaal Dam which forms part of the Vaal River System and covers an area of 55 565 km^2 with infrastructure such as the Vaal Dam, Grootdraai Dam and Sterkfontein Dam (Scott, 2002). The Upper Vaal WMA provides for water users such as industries and mines including Sasol and Eskom, bulk potable water supplier Rand Water, farming activities, afforestation, and industries such as Sappi and municipal water boards (Department of Water and Sanitation, 2014). These stakeholders have a common interest in the decisions taken regarding the water resources within the Upper Vaal WMA.

This study was conducted within the DWS Gauteng Provincial Office where the Environmental Officers are responsible for managing the IWRM within the Upper Vaal Water Management Area.

1.5. The role of Environmental Officers during the Integrated Water Resource Management.

Environmental Officers are required to know environmental legislation including the NWA, the National Environmental Management Act, 107 of 1998 and the Minerals and Petroleum Resources Development Act, Act 1 of 2004. Environmentalists work with multisectoral organizations and operations in South Africa. They are responsible for making decisions on the water allocation by processing water use authorization, assessing EIA documents, regulating water users to ensure compliance to authorizations, ensuring corporate governance, stakeholder engagement and essentially contributing towards IWRM. Environmental Officers have an influence in determining which water use activities and project take priority and the water quality standards the user would need to comply (Susskind, 2013).

Government Gazette 40713 Regulation No. 267, provides Environmental Officers with guidance on the steps to follow when processing a water use licence application which includes assessing various technical and specialist documents to manage the environmental impacts, ensure legislative compliance and promote stakeholder engagements to ensure IWRM.

Environmental Officers contribute to the IWRM process by evaluating Environmental Impact Assessments (EIAs) and processing Water Use Authorizations. The EIA is an environmental project management impact and risk identification process to assist in providing an opportunity to select the best, viable implementation strategy that considers both social and economic contributions (Aregbeshola, 2009) while improving decision-making and contributes towards the conservation and sustainability of the biodiversity. As part of these processes, Environmental Officers interrogate the public participation processes and reports within the water use authorization applications and EIAs presented by project managers or applicants to aid in the decision-making of issuing a water use authorization. This process aims to ensure transformation, representation and inclusion in managing water resources.

Environmental Officers require skills and knowledge on environmental management principles and public participation to effectively regulate water users and contribute towards social justice. Within the IWRM spectrum, their role is key in ensuring resilient water resources.

1.6. Water use activities and the different types of water use authorizations

Section 21 of the NWA defines water use activities as the storage or abstraction of water, diverting or altering the flow of water resources and removing water from underground for the safe continuation of mining activities, amongst others. The Act requires the authorization of water use activities depending on the impact and risk associated with the activity. The Department needed to classify water use activities due to the implications of these activities due to the impact on water availability, quality and sustainability of water resources. The classification allowed the Department to have economic instruments such as water resource management charges and water tariffs to recover costs related to the control, development and administration activities (Mackay, 2003).

The NWA has four types of water use authorizations for regulating water use activities, namely schedule I water use, general authorizations, existing lawful water

users and the water use licence authorization process. The NWA provides the different types of water use authorizations as follows:

- Schedule I users are classified as water users that use a low volume or constitute a group of users that use water for household activities which are deemed low risk activities hence less regulation is required. The water uses include domestic water use activities, watering livestock, storing run-off water and rainwater harvesting. This type of water use does not attract any water use charges.

- General Authorization is a group of water users that are exempt from the requirements of applying for a Water Use Licence provided that the water use is within certain requirements as set out by Regulation 1911 of 1998. The applicant would need to register the water use activity at the Department.

- Existing Lawful Water Users are water use activities that took place two years prior the commencement of the NWA. No water use licence is required to continue with this type of water use unless a responsible authority requires a person maintaining such an entitlement to lodge a WULA. These water users are governed by the Water Act of 1956.

- Water Use Licence users are that considered to have activities that have a high risk of impact on the environment and do not comply with the general authorization status or the above listed classifications.

This study is based on users that applied for a water use licence as the usage is classified to have a high impact on water resources and high-risk activity.

1.7. The Procedural Requirements for Water Use Licence Applications.

The NWA provides that National Government has authority and responsibility over water resource management in South Africa. The NWA (National Water Act, 1998, p. 50) aims to ensure *"equitable allocation and beneficial use of water in the public interest".*

The Department, guided by Government Gazette 40713 Regulation No 267, addresses the procedural requirements for water use applications and appeals. The regulation requires project leaders to submit EIA studies for proposed activities which may have an impact on water resources and submit a public participation report on all projects that require a Water Use Licence for consideration. The regulations support the mandate of the Department associated with section 40-41 of the NWA which addresses the need for authorizing water use in controlling activities that impact water resources.

Table 1 summarizes the steps carried out by the Department of Water and Sanitation as per Government Gazette 40713 Regulation No 267 which includes the assessment of the public participation processes.

Table 1: Summary of steps within the Water Use Licencing Application process.

NO.	**STEPS IN PROCESSING WATER USE LICENCE APPLICATIONS**	**RESPONSIBLE**
1	Administrative pre-application processes	DWS/ Applicant
2	Arrange site inspection to confirm water uses, determine technical and associated requirements and the need for public participation.	DWS/ Applicant

3	Confirm technical and requirements for WULA including the technical reports and public participation.	DWS
4	Compilation, consultation and submission of WULA technical reports and public participation reports by applicant. Assess all received reports for recommendations.	Applicant/ DWS
5	Decision and communication of outcome to the applicant	DWS

Source: Department of Water and Sanitation, 2017.

The above process outlines the role of the Environmental Officers during the issuance of water use licences. The lodged applications submitted to Environmental Officer will include a public participation report that should provide details on the processes followed to include an inclusive and transformative consultation process. The process allows Environmental Officers the ability to use their influence to increase public confidence in state institutions, regulate power differentials among the affected stakeholders, promote effective information dissemination processes and promote democratic goals.

1.8. Public participation in the Environmental Impact Assessment process

In South Africa, the IWRM process is supported by implementing the EIA process which legislatively mandates organizations to ensure public participation for environmental projects amongst other requirements. These requirements may include technical reports, environmental programs and basic assessment reports. The EIA outlines that interested and affected stakeholders should be consulted throughout the

life cycle of environmental projects. Public participation within the EIA process is generally associated with sustainable development, integrated environmental management and an empirical approach with the outcomes aligned with environmental legislative requirements (Aregbeshola, 2009). The EIA processes require public participation from project initiation and during the screening process until the completion of the project. The EIA proposal document outlines the objectives of the project to key stakeholders and its associated risks, integrates the impact studies of the proposed activities and uses the findings thereof to improve decision-making and provides regulatory tools to monitor it's the impacts of activities throughout project implementation (Murombo, 2008). The below process details the typical EIA process when implementing environmental projects.

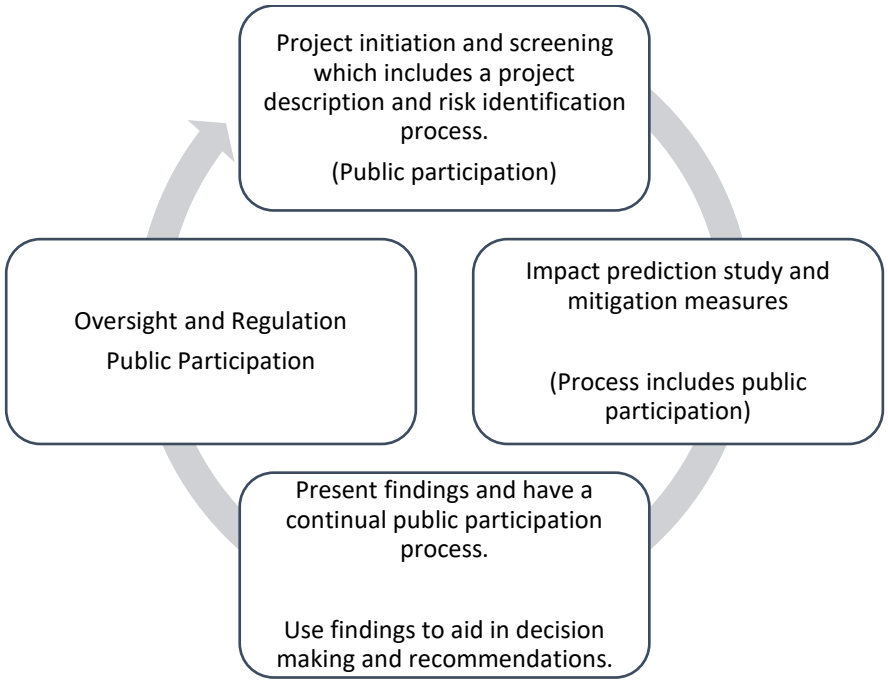

Figure 2: Procedural requirements of the EIA processes.

Source: Department of Environmental Affairs, 2010.

Government Gazette No 35769 Regulation No 805 published guidelines for the DEA on the implementation of EIA regulations. The regulation sets out that the applicant needs to provide the EIA documents to competent authorities to assess for an

environmental authorization. The DEA mandate is included in the National Environmental Management Act of 1998, which sets out regulations on managing environmental authorizations, biodiversity, waste management activities, air quality and coastal areas (Wills et al., 2016). The DEA has guidelines on the public participation process and the Department has adopted these processes as the WULA process includes the assessment of EIA documents.

An EIA report should have a public participation report, which prescribes to certain conditions such as a publication of a notice around the impacted area requesting for comments on the proposed project, contact details of the applicants and a comments register. Public participation is a continuous process within the EIA process right through to project closure of environmental projects. The EIA process recognizes democratic practices within the public participation processes which should increase the probability of the community adopting the project and improve the communities' environmental knowledge (Aregbesholas, 2009).

1.9. Public institutions and social justice

Social justice is defined as the protection of rights, equality and equity of societies in ensuring access to the social, economic, and political opportunities and resources. Public institutions such as the Department have the responsibility to ensure that resources are distributed in such a manner that promotes equity amongst various social group (Jackson, 2005). The literature review provides details on the history, evolution and principles of social justice. This study explores the manner in which the Department utilizes its policies to maintain justice in society.

1.10. Problem statement

The DWS employs Environmental Officers to ensure IWRM within the Upper Vaal WMA However the influence by Environmental Officers to ensure representation of project beneficiaries and water users during project and policy implementation has not been explored. The DWS, as an administrator, must regulate the level of public participation by stakeholders during decision-making processes (Boakye & Akpor,

2012). The level of participation during project and policy management needs to be reflective of the needs of the water users and protect the environment while uplifting economic development within the WMA. In realizing the importance of public participation, the management thereof can assist in ensuring social justice.

Much work has been undertaken on understanding the impediments towards effective public participation and frameworks that characterize effective participation (Ashton et al., 2006). Little has been done to understand the management of the public participation by Environmental Officers in South Africa related to IWRM and particularly its contribution towards ensuring social justice (Boakye & Akpor, 2012).

The challenge of implementing the IWRM principles is difficult as interpretations on how best to implement it goals and objective varies for stakeholders (Ashton et al., 2006). Understanding the management of the public participation process will engage policy evaluation and social learning within the Department which may improve water resources management. Water is a public good and needs government intervention to ensure access for present and future water needs. The mismanagement thereof or lack of stakeholder participation may harm the environment, health of communities and impact the economy negatively. Ineffective water resource management may greatly affect the nation's welfare.

1.11. Aim of the study.

The aim of this research is to explore the management of public participation by Environmental Officers within the DWS in ensuring social justice within the Upper Vaal WMA when implementing the IWRM.

1.12. Research questions

Whether Environmental Officers ensure social justice when managing the public participation processes during the implementation of IWRM?

Sub Research Questions:

Whether Environmental Officers understand their role during the public participation process in the IWRM?

Whether Environmental Officers ensure distributive, interactive and procedural justice during the IWRM?

What are the current strategies employed by Environmental Officers to ensure social justice during the IWRM?

Chapter 2: Literature review

This chapter reviews literature which details the history of IWRM and its institutional landscape. It provides insight on the mandate of the Department of Water and Sanitation during the implementation of IWRM principles. Furthermore, it provides information on public participation including the legislative requirements as set out by the South African government. Lastly, it addresses the evolution of social justice and its framework.

2.1. The origin of the Integrated Water Resource Management

IWRM was first traced in 1933 during the initiation of the Tennessee Valley Authority during its role in flood management. It integrated erosion controls and public welfare, which considered the social, economic and environmental implications (Meran et at., 2021). It was later reflected in the 1967 UN Report titled Integrated River Basin Development, which provided an integrated framework to manage agricultural activities and the International Water Conference hosted in Mar de Plata in 1977 which emphasized the need for collaboration between all water users (Freie Universität Berlin, 2016). The concept of IWRM gained traction in 1992 during the International Conference in Water and Environment hosted in Dublin, which framed the Dublin Guiding Principles emphasizing that water is essential to sustain life, the importance

of public participation, the role of women in protecting water resources and recognized water as a public good with an economic value (Mehta et al.,2014).

In South Africa, the IWRM concept was adopted as a result of the developments and strain that affected water resources and the government's inability to provide water services sustainably. South Africa was led by the British empire which was considered a mining capital and the Afrikaner party which greatly invested into agricultural projects and contributed to the current social state (Swatuk, 2010). Historically, the government used to invest in agriculturally related projects and mines for the benefit of the white communities which may be observed in the allocation of water use whereby in rural areas, 98% of the water use was mainly allocated for agricultural purposes (Movik et al.,2016). The old government developed policies which controlled landownership and water rights mainly to lease out land for tax purposes, which propagated the riparian rule providing that leases grant access to water based on the land ownership which mostly affected developments in rural areas (Swatuk, 2010). In that era, the socially disadvantaged groups were not part of the legal framework considering that the Irrigation and Conservation of Water Act No. 8 of 1912 prioritized the agriculture sector through the riparian water rights and the 1913 Land Act which displaced black South Africans from land, which would provide these groups access to water infrastructure and irrigation schemes (Jegede & Shikwambane, 2021). The riparian rule provided priority over public water rights. This led to an expansion in agricultural activities and the establishment of Irrigation Boards and River Boards instituted by the Department of Agriculture with the aim to manage the water resources. In the mining areas and townlands, urbanization, industrialization, and developments compelled the government to centralise water resource management as the population grew and better practices for providing water and sanitation increased which led to the establishment of Rand Water in 1903 (Swatuk, 2010). The apartheid government in its efforts to curb the impacts of these activities, developed the Water Act of 1956, which details measures such as the water pricing strategy, waste discharge measures and catchment committees to implement some of IWRM principles (Movik et al., 2016). The old government practices were not inclusive and developmental for all social groups. The transitional laws and policies

from the apartheid government and infrastructure developed to harness water for multiple social activities constituted a complex developmental environment over time within the new democratic state. As politics evolved in South Africa, the need to develop human rights which promote equity and access was prioritized. In 1994, the African National Congress became the leading party as they led a democratic state and developed the 1998 Constitution of South Africa which, through section 24, describes the need to protect the environment and promoting equitable access to natural resources.

2.2. The water resource management institutional landscape

The Department of Water and Sanitation is a public entity established to serve the people of South Africa by regulating the water sector, developing policies and strategy that supports socio-economic development, contributing towards redressing the results of the past racial and inequalities which should contribute towards social justice. The DWS enacted water management policies that promote “equity, sustainability, equality and efficiency through water management decentralization, new local and regional institutions, water users’ registration and licensing, and the emergence of water rights’ markets” (Molobela & Sinha, 2011 p, 994).

The management of South Africa’s water resources involves catchment management and water resources management functions, controlling the storage and abstraction of water, having river systems management, and return flow management strategies, which aim to contribute to ensure that water resources are protected and managed in an integrated manner. The Department should promote good governance, which primarily is the ability of government to enforce its intentions to redress social inequalities with policies that influence the behaviour of water users towards a common goal. Social justice is a great contributor to good governance as both are premised on transparency, communication, effective management of resources, authority, responsiveness, procedural and administrative competence (Dar & Shairgojri, 2022).

The legislated institutional settings for water resource management consist of Catchment Management Agencies established in terms of Chapter 7 of the NWA, International Water Management Bodies established in terms of Chapter 10 of the NWA, the Irrigation Boards established by the Water Act of 1956 and the Water User Associations established in terms of Chapter 8 of the NWA and the Water Tribunal established in terms of Chapter 15 of the NWA. The Catchment Management Forum is another non-legislated platform, which is key towards water resource management. These institutions aim to decentralize water resource management to the grassroots level and ensure stakeholder engagements.

The Catchment Management Agencies are water management institutions established by the DWS and carries out functions such as water resource planning and developing catchment management strategies; the collection of revenue through water resource management charges, authorize water usage and to decentralize water resources management. (Schreiner& Van Koppen,2002). In its legislative obligation to ensure stakeholder engagement during policy and project implementations, it is found that CMAs will find that most decisions in a catchment are made by individual landowners and resource users (Rogers, Roux & Biggs, 2000). This paper focuses on the contribution at which water resource management policies contribute towards social justice and whether decisions are fully decentralized to reflect all stakeholders as to promote the legitimacy of government and impede its mandate of equitable access to water resources. The CMA, if it is to contribute to social justice, would need to find strategies that are inclusive in nature and support the needs and values of stakeholders. In the absence of an established CMA within a water management area, the DWS is responsible for water resource management within the area.

International water bodies implement international agreements on shared water courses with neighbouring countries. South Africa shares transboundary river basins with six neighbouring countries and forms part of the regional initiatives such as the South African Development Community Revised Protocol on Shared Watercourses, the African Union and New Economic Partnerships for African Development, the

African Water Facility and African Water Vision, which aim to manage shared water courses with neighbouring countries (Mirumachi & Van Wyk, 2010). South Africa has dedicated itself to the international declarations on sustainable water resources development, including the Millennium Development Goals, “Earth Summit” in Rio, and the World Summit on Sustainable Development Goals (Masindi & Duncker, 2016). It is also a signatory of the United Nations (UN) 1992 Rio Conference on Environment and Development, which supports effective stakeholder engagements (Shepherd & Bowler, 1997).

Water User Associations are vehicles for transformation established with the aim to manage water at a localized area within a water management area with an emphasis to enable improved participation by including historically disadvantaged individuals, such as emerging farmers, into the decision-making processes (Faysse & Gumbo, 2004) Water User Associations are cooperatives that consist of individual water users within a defined localized area with a common interest to manage a shared water resource. The Department has been slow in transforming Irrigation Boards into Water User Associations mainly to the lack of representation of historically disadvantaged individuals into the management committees of these institutions, the impact of the land reform programme on fast tracking land reform initiatives and the socio-economic status of the country (Chiluwe, Ncube, Msimang, & Modiba, 2022).

The Water Tribunal is an independent body, which was established to consider appeals on decisions relating to water resource management by the Department, Catchment Management Agency or a water management institution (Malzbender, Goldin, Turton & Earle, 2005). Grievances may be lodged by applicants or stakeholders for the Water Tribunal, which consists of nominees that have knowledge on legal matters, water resource management and engineering matters. The aim is to influence the decisions by the DWS. In n cases where these parties are dissatisfied with the water recommendations of the water tribunals, they may present the case for reconsideration to the high court (Olivier & Olivier, 2014).

Catchment Management Forums are platforms and governance structure established to maintain communication, dialogue platforms, lesson-sharing initiatives, and watchdogs on water resource activities that foster cooperative governance between the DWS, CMA, catchment residents, local government, and strategic water users within the water management area (Munnik et al., 2016).These established platforms and structures are needed to effectively facilitate the requirements of the IWRM. However, they hold a risk of group thinking whereby some individuals might shy away from social learning and pose a risk of excluding certain social groups (Teodosiu, Barjoveanu, & Vinke-de Kruijf, 2013). The challenge of having social groups with homogenous interests provides a risk as it might falsify the promotion of democracy (Paloniemi et al., 2015). These forums provide a platform for stakeholders that have a common interest to negotiate on water resource management and create a common vision that supports the goals of the Department.

This paper attempted to create a link between the inefficiencies of these water management institutions in managing public participation, particularly the Department and CMAs, to gain insight on experiences by the policy agents which might improve the policy positions within these institutions.

2.3. The Department of Water and Sanitation in achieving transformation and equity

South Africa has water availability challenges and established water management institutions that aim to uphold the provisions of the constitution to democratize and decentralize water resource management (du Toit & Pollard, 2008). Effective public participation is a global challenge in water governance (Dhanya & Renoy, 2017). The Department, guided by the NWA and Water Services Act, 107 of 1996, develops policies and guidelines on the management of water resources to address the impacts of the past while ensuring equity and access to water resources. The aim of th legislation is primarily to get rid of riparian rights on water ownership and to reflect the intentions of a democratic state. In its pursuit to democratise water resource and stratify water allocation, the Department prioritized its allocation towards the provision of free basic water and water required for ecological sustainability called

the reserve (Harris, Van Vliet & MacKay,1999) and provides authorizations for the different water uses.

The Department has adopted administrative systems, as contemplated within the National Water Policy, which finds significance in maintaining the reserve by having resource quality objectives, which are classifications systems developed to understand the ecological needs of water resources and having control over water use activities through the WULA process (Rogers et al., 2000). The Departmental administrative systems aim to support its vision to effectively and sustainably manage water resources which includes classifying the water resources, establishing ecological reserves and setting resources quality objectives which provide operational thresholds for water resources as per the NWA. The Act further requires an allocation plan to meet the demands of the economy, social needs and environmental protection and a Catchment Management Strategy to guide the management of water resources in South Africa. These processes support the decision-making administrative processes of the Department during the water use licence processes. Figure 3 provides details of the administrative processes of the Department for implanting the NWA to achieve the vision of the Department.

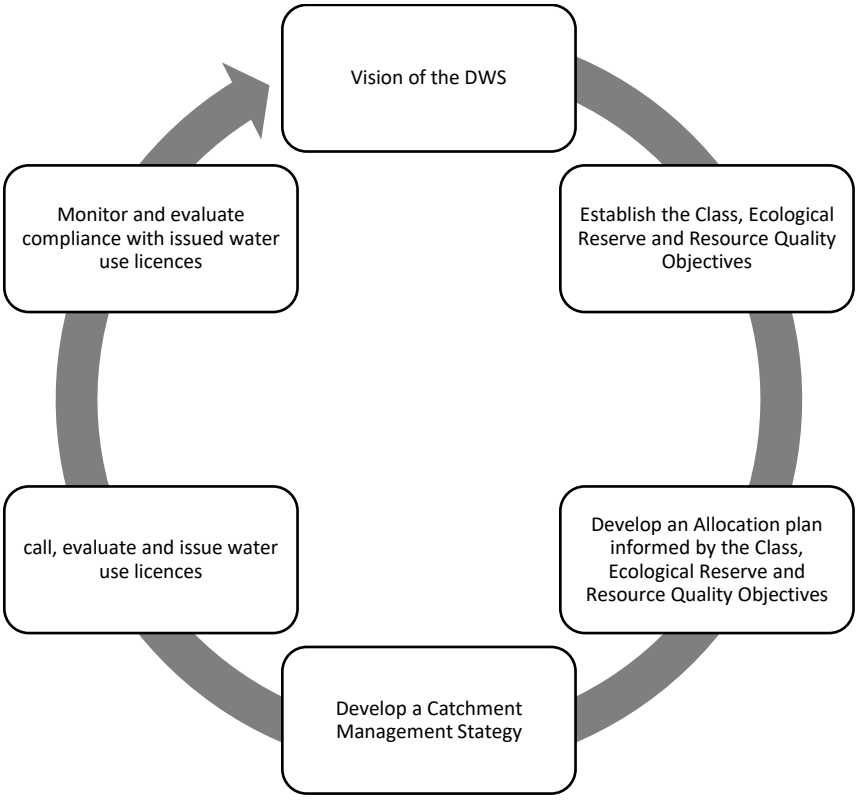

Figure 3: The DWS administrative processes on the management of water resources and implementation of the NWA.

Source: Rogers et al., 2000.

The Department in implementing its role is faced with an array of challenges, which require the Department to regulate in an environment whereby "water problems have become multi-dimensional, multisectoral, and multi-regional and filled with multi-interests, multi-agendas, and multi-causes, and which can be resolved only through a proper multi-institutional and multi-stakeholder coordination" (Biswas, 2004, p. 249). To illustrate some of these challenges, this paper discusses two case studies whereby stakeholders queried the decisions and the issuance of water use licences to applicants that the Department consented water use activities without an extensive analysis of the public participation process, particularly the Escarpment Environmental Protection Group and Wonderfontein Community Association case and the ACWA Power case from Khanyisa Thermal Power Station (Pty) Ltd case.

The Escarpment Environmental Protection Group and Wonderfontein Community Association lodged a case against the DWS, Water Tribunal, Exxaro Pty (Ltd), WER Mining (Pty) Ltd and Xstrata Alloys (Pty) Ltd for water use licences granted to proceed with mining activities at the North Gauteng High Court in November 2013. The Department was accused by the Escarpment Environmental Protection Group and Wonderfontein Community Association of issuing a water use licence without directing the applicant to publish notices and consult the stakeholders (Chamberlain, 2014). The Water Tribunal was called for representation to the High court based on its decision that the aggrieved parties had no base to recall the issuance of the licence. The stakeholders argued that they presented evidence to the Department and Water Tribunal on their comments and objections on the project stating that the applicant failed to call for comments and publish notices on the project and the Department granted the applicant with a licence, nonetheless. The High Court countered the decision by the DWS and Water Tribunal quoting section 33 of the Constitution and section 3 of the PAJA quoting that these institutions failed to maintain administrative justice though it acknowledged that section 40 of the NWA provides applicant the option to disregard the public participation processes. (King & Reddell, 2015). According to the Promotion of Administrative Justice Act 3 of 2000 (PAJA) procedural requirements should preserve administrative justice and protect the constitutional rights of citizens. The PAJA requires applicants to conduct a public participation process for environmental management projects and through section 4, provides administrators powers to influence the choice of participation by project leaders (King & Reddell, 2015). This judgement proves that it is important to maintain procedural justice and have a transparent, open public participation process as it can assist resolve issues and reduce the risk of project failure. It is important to consider that the process to approach the high court may be financially demanding and inaccessible by all social groups affected by project outcomes.

In 2018, the Groundwork Trust represented by the Centre for Environmental Rights appealed a Water Use Licence at the Water Tribunal granted by the Department to the Khanyisa Coal Power Station owned by ACWA to construct a 600 MW station due to the lack of adequate public participation. The licence granted was

for a construction of a 5km bulk water supply pipeline which was to crossover the Naauwpoort River and a wetland, a road realignment, a stormwater dam and ash disposal site. The matter was presented at the Water Tribunal on the 21 July 2020 providing that the procedural processes were unfair and unconstitutional whereby ACWA was instructed to initiate public participation processes for the Department to reconsider the WULA and a case was lodged against the DEA stating that it failed to consider the impact of climate change that would result from the proposed activities of the project and goes against South Africa's' commitment to the Paris Agreement (Mkhonza, 2022). This case is exemplary that it can be costly to bypass the public participation processes, which could have redressed some of these issues and avoided project delays.

The Department's mandate in managing the water allocation processes to redress the impacts of the past while preserving water for developments and future usage is met with an array of challenges and grievances from different users. A continual review of the Departmental laws and regulations are key in achieving a socially responsive government. Within the South African water resource management spectrum, there are various legislations which promote effective management during the decision-making processes. The Department of Water and Sanitation is the custodian of water resources as guided through the NWA and Water Services Act, 108 of 1997 as previously alluded. This study r also recognizes the NEMA Act administered by the DEA, which through its EIA guidelines provide guidance on participatory processes. The Minister of DWS, DEA and Mineral Resources reached an agreement in 2013, to streamline and integrate environmental regulatory processes known as the "One Environmental System", which was introduced to reduce duplication of environmental management systems in South Africa (Musodza, 2018). The National Water Amendment Act 27 of 2014 dated 2 September 2014, was promulgated to align environmental regulatory requirements within the framework of the One Environmental System and created an opportunity to redress the shortcomings of the public participation processes provided by section 40 of the NWA (King & Reddell, 2015).

2.4. Integrated Water Resource Management and the Department of Water and Sanitation.

IWRM is a tool used to govern the water resources in South Africa as it promotes equity, inclusion and the involvement of the public in the managing water resources; it recognizes that water is a public good (Fritsch, 2017). The integration within the IWRM practices encompasses the incorporation of an array of elements such as the type of water resource involved e.g. surface water or ground water, water quality and availability, the various water users within the water management area. The IWRM also considers the projects that affect the water resource, water resource management at urban and rural areas, water related institutions and government authorities within the water management area, downstream and upstream users, international water resource management partners, current and future technological requirements and consideration for the social, economic, environment and biological impacts (Biswas, 2004).

The IWRM requires the coordination of various stakeholders in managing activities and risks to reflect these various elements to collectively manage these activities and risks. There are three pillars for implementing the IWRM. Firstly, the practice requires an enabling environment like financial instruments, policies and regulations, secondly, institutional roles such as clear functions and capacity building and lastly, management instruments such as water resource planning and assessment, information management systems, considers water allocation and demand management plans (Meran et al., 2021. p.117). The IWRM principles include following a systems approach, requires robust stakeholder engagement, consideration of the social and environmental dynamics, capacity building, information management during development and the economic implications of projects (Meran et al., 2021). The IWRM principles represent society; - their values, hopes, conditions and purposes (Folke et al., 2002). The DWS requires interested and affected parties to be consulted at all policy levels. The NWA is a transformative legislation that shifted the private, riparian-based ownership of water resources to a right-based regulated resource (Mackay, 2003). The legislation requires registration of water users including various

existing stakeholders such as mines, industries, agricultural water users to create a database for effective water resource management.

The NWA is administered by the DWS and recognizes water as a public good for socio-economic development and sustainable use. IWRM encourages development, considers the economic and social welfare and promotes sustainable use of water resources (World Commission on Dams, 2000). The DWS, in its efforts to curb the impact of past racial and discriminatory practices, set up systems and governance structures endorsed the IWRM as a tool to improve towards an information-based and inclusive organization. Limitations exist even though information management systems have improved to address the impacts of past racial and discriminatory practices, however, the organizational designs have not been supportive (Mitchell, 2005). The inadequate application of the IWRM, provides a 'lack of good development practices and participatory rights which manifest negative outcomes for the poorest and most vulnerable' during water resource management (Razzaque & Kleingeld, 2014. p213). The Department may have brilliant, scripted policies however, the implementation thereof will measure its ability in achieving social justice.

2.5. Unpacking public participation

Public participation is a tool used to develop policies to realise democratic ideals by both private and public institutions (Rowe & Frewer, 2000). It introduces community involvement, improves the accountability of public institutions, contributes towards transformation and ensures social change. To achieve social justice, public participation should be centred towards upholding democratic principles, promoting the rule of law, empowering project beneficiaries and improving social responsiveness (Aregbeshola, 2009).

Public participation provides stakeholders an opportunity to become shareholders by partaking in the decision-making processes by raising their concerns which can contribute towards the risk identification and mitigation processes for projects. It also provides a platform for stakeholders to deliberate on the proposed

activities which can assist in clearing up any misinterpretations, promote accountability and improve transparency while providing social capital (Department of Environmental Affairs, 2010). There are various techniques such as personal interviews, focus groups, workshops, surveys, stakeholder panels and participatory tools which could be implemented to ensure participation (Jeffrey, 2009).

Public participation effectively managed can provide for an inclusive representation of stakeholders by ensuring that the affected stakeholders are considered in decision-making processes. When participation is ineffectively managed, it creates mistrust and disappointment in the public view When its well-managed, it helps reconcile misconceptions and misinterpretations. The risk associated with misinterpretations includes cases whereby communities do not support project objectives and behave in a manner that destructs project outcomes. Ineffective public participation management has created a culture of a top-down approach whereby the affected parties are rarely included during decision-making. The process should include the bottom-up and transversal approaches, which will provide a platform for dialogue and negotiation. However, it has been noted that some project managers shared concerns that this process can impact on project costs and timeframes, create disagreements and conflicts (Bréthaut, 2016).

Water governance and public participation should evolve towards recognizing the involvement of non-state actors and value should be drawn from the experiences of the project beneficiaries (Fritsch, 2017). It is key to recognize that power differentials in the decision-making processes for water resource management can increase inequality (Paloniemi et al., 2015). For participation to decrease inequality, it is important that the representation of consulted stakeholders should not be those of established groups only but should include different users from various social groups with the aim to maintain an inclusive process (Voss, 2014). Effective participation can be impacted by the level of knowledge stakeholders have on water governance and the water resource management strategies. Therefore, the participation process should provide knowledge and build trust and communities should understand the

objectives of projects and the legal framework that guides those actions (Mei, Weng, & Ao, 2015).

The management of public participation is motivated by political and economic issues to derive the importance of projects rather than providing focus on the social and environmental issues (Paloniemi et al., 2015). It is debatable whether social values of parties from poor or marginalized communities would consider environmental protection. The bureaucratic powers of administrators need to be recognized and should suspend project managers for submitting results that provide an unfair representation of stakeholders during project management (Bréthaut, 2016). The effective management of the public participation process by government might improve the receptivity of communities on environmental protection matters improving the water quality of resources. Environmental protection is mostly considered in cases whereby the activities will harm business profits or provide political unrest (Voss (2014). Environmental degradation in water resource management poses opportunity for externalities to be passed onto communities. The government's role in encouraging social change towards environmental care is important as to improve policy making and the water quality of resources.

The management of public participation is rarely evaluated, which poses a hazard in that project managers, consultants, facilitators and administrators cannot be held accountable if public participation is inadequate (Wehn, Collins, Anema, Basco-Carrera, & Lerebours, 2018). The best practice methods for evaluating the success of a public participation process involves understanding whether the intended outcomes were achieved, assess whether the required resources allocated by the project leader were sufficient, evaluate the fairness and representation of the stakeholders, unpack the assertions ensuring the process, the flexibility of the project leaders during the project cycle and track both quantitative and qualitative measures taken to ensure output and outcome based monitoring (Griffin et al., 2018).

2.6. Public participation in South Africa in national government departments including the Department of Water and Sanitation.

The Constitution of the Republic of South Africa, 1996 section 118 provides mandate of the government should involve the inclusion of the public within its formulation of legislation and committees, ensure accessibility of public participation processes and the inclusion of media during its decision-making processes (Sebola, 2017). Public participation is the cornerstone of South African government legislations and policies with an emphasis consultation systems and structures to promote good governance (Maphazi, Raga, Taylor, & Mayekiso, 2013). Democratic public participation provides political power to the communities by admitting the involvement of the public and a tool that aids towards the economic, social and ecological sustainable development (Maphanga, Shale, Gqomfa, & Zungu, 2022).

The public participation on a national scale can be guided by the general environmental laws .i.e. NWA and NEMA and their supporting regulations. The general laws provide a platform for legal redress and procedural guidelines such as the legal tools that promote public interest (Razzaque, 2009) which may be key in upholding integrated water resources management. Within the environmental management context and legislative framework for water resources management in South Africa, it clearly stipulates that all developments projects should be supported by participatory processes as required through the EIA processes (Maphanga, *et al*., 2022). In addition, the Departments role includes ensuring administrative justice and ensuring that stakeholders' constitutional rights for access to information is protected (Hamann, 2003). It is the role of government to decentralize water resources by considering the inputs, petitions, and suggestions by the public into policy making and administrative decision-making processes as to support the transformation of the water sector (Hilliard & Kemp, 1999).

Most of the studies have provided an outlook on the impact and experiences of public participation on the receiving end i.e. affected stakeholders. The studies reflect on the mismanagement of public participation which when ineffectively managed may result in protests (Akinboade, Putuma Mokwena, & Kinfack, 2013), the role of

government in redressing the past inequalities through its regulations and legislations (Schreiner, & van Koppen, 2003) and the politics involved in water resources management which include the inability of public participation processes to cater for the comments of the less privileged (Jidskog, 2020). They also bear interest on the ability for government to be influenced elite groups and governments failure in implementing its policies (Hilliard, & Kemp, 1999). Some of the studies reflect on the challenges which have resulted in poor participation processes including the lack of quality guidelines which may result in a confusion between the stakeholders and the regulators, the lack of proper information and the growing frustrations from stakeholders which may limit their interest in participating during consultations (Du Toit & Pollard, 2008). However, there is limited work that provides details on the experiences by government officials in providing insights on the management of public participation.

2.7. Public participation as guided by the Department of Water and Sanitation

Regulation 234 published in Government gazette No 40713 provides procedural requirements for WULAs and the appeal processes for aggrieved applicants. Section 41(4) provides an option for project leaders to provide suitable notice through a newspaper or media of their intentions to partake in water uses as defined within section 21 of the NWA.

The Department requires that the notice should describe the intended activity, period for comments, contact details or any stipulations required by the Department. The notification should be visible at the site or area in question and a notice should be given to the owner of the land or people occupying the land in question for a period more than 60 days. Amongst the stakeholders, the regulation directs project leaders to consult ward counsellors, municipalities, and land claims offices. The regulation requires project leaders to consider the illiterate and disabled stakeholders. It details that a public participation report should include the objectives of the participation process, identify the interested and affected stakeholders, provide guidance on the process followed to access information related to the project and provide the process

for submitting of written comments, amongst other factors. This regulation provides the Environmental Officers an opportunity to review the management of the public participation by project leaders.

It is important that the project manager, during the planning phase, identify the objectives of the project and intentions of the consultation, profile the stakeholders and ensure that the participation process is inclusive and allows for engagements. It is key that, information is set in a detailed manner which allows the process to be holistic and empowering as to aid stimulate deliberation and negotiations and should consist of a consultation plan with allocated timeframes and resources. After considering these factors, one may proceed to design the implementation plan which should include a post project implementation monitoring and evaluation programme (Jeffrey, 2009).

The DWS manages public participation through the EIA process, the Water Use License Administration process and policies that support the IWRM. It requires the EIA and Water Use Licence Administration processes to include the project description, environmental risks, public participation processes and outcomes of a particular project. Environmental Officers within DWS make recommendations based on the contents provided by project managers.

In compliance with the regulation, the project manager is required to produce a public participation report with a registration of the interested and affected stakeholders. The report should provide written comments or objections from the stakeholders, records of meetings and proof of alternative consultation methods provided for illiterate or disabled stakeholders.

2.8. Public Participation as guided by the Department of Environmental Affairs.

The Department of Environmental Affairs is guided by the National Environmental Management Act of 1998 and requires tools such as the EIA process to examine the possible environmental effects of projects. Regulation No. 807 published in Government Gazette No 35769, which is the public participation guideline

by the DEA, addresses the procedures related to the notification of both interested and affected parties as well as the level of participation that is required from applicants on projects. It also provides the requirements regarding accessibility and reporting. The regulation recognizes public participation as the corner stone of the environmental authorization process. The participation process is the only requirement that cannot be exempted as people have the right to be knowledgeable about decisions that may impact their wellbeing.

Furthermore, Regulation No. 807 sets requirements and standards for the distribution of information during public participation. These include requirements on the method for notifying stakeholders on proposed activities, the content of notices, notice boards and adverts placed on social media. It also addresses approaches to identify and broaden participation to ensure an inclusive process.

The regulation requires applicants to post notices in accessible, public areas and the area of the proposed activity. The notice should be accessible for the duration of the project. The Department requires all notices to comply with a minimum size of 60cm by 42cm with a format as determined by the competent authority. Written notifications should be provided to those involved such as the municipality, organ of states, landowners, ward councillors and environmental services agents in the jurisdiction area. The notices should be advertised in a local and national newspaper in a language that the stakeholders will understand. The process should include people with disabilities such as illiteracy and any form of disability. The notice should describe the activity, how one may provide comments and dates and information related to the consultation. The applicant is required identify the various social groups that will be affected by the decision and ensure that they are catered in the stakeholder engagement strategy.

The DEA has set out reporting requirements for applicants, which include the applicant attaching pictures and proof of emails sent to the stakeholders. The regulation indicates that the applicant is required to consult the Department of Water and Sanitation and provide a period of 60 days for the Department to make comments.

The regulation sets out that it requires approval in terms of the NWA before granting an environmental authorization. The regulation also provides guidance on the required level of public participation for environmental authorizations which considers the anticipated impacts of the proposed project, the sensitivity of the receiving environment and potentially affected parties. The public participation framework has been criticized for not providing a regulation for public participation beyond project implementation (King & Reddell, 2015). The interested and relevant stakeholders.

The International Association for Impact Assessment (IAIA) (2006, p.1) defines public participation in the context of environmental assessment as “the involvement of individuals and groups that are positively or negatively affected, or that are interested in, a proposed project, programme, plan or policy that is subject to a decision-making process” (IAIA. Public Participation, 2006, p. 1). The participatory processes within the environmental context comprise various interest groups. The interest groups may include communities affected by the activities or project, people that have an influence within the organization, knowledgeable focus groups, investors and partners (both internally and externally of the organization), authorities and regulators as well as governing bodies.

Institutions such as the International Association for Public Participation and the United Nations promote inclusion of the public in decision-making to ensure the sustainability of water resources.

Stakeholders are normally defined as a group of people that will be affected by the project outcomes. Some authors argue that affected people should include the public instead of directing the power to organized groups.Others, however, counter the notion as economically unviable, though the common practice involves inviting comments from all interested parties (Glucker, Driessen, Kolhoff & Runhaar, 2013). Government Gazette No. 35769 defines the interested and affected parties as individuals or groups that will be affected by a proposed activity. These individuals or groups have a vested interest within a specified jurisdiction. The regulation emphasizes that there is a difference between interested and affected stakeholders

and registered stakeholders. The latter can be directly or indirectly affected by the proposed activity. The regulation emphasizes the need for all stakeholders to be consulted on the project.

The applicants would need to compile a contact list register to ensure that all stakeholders are provided opportunity to partake in the process. The applicant needs to ensure that the contact register has the names, contact details and addresses of the persons affected and interested in the project, provide the rationale for the public participation should be considered. Environmental decisions affect the health of all people and therefore the process should include various interest groups including the public (Glucker et al., 2013) it identifies as well as the segment stakeholders. There are various ways to identify and segment stakeholders such as considering their impact, interest and power in the project. Having a particular information source on the stakeholders, their culture and general views, the degree of influence and their power would greatly ease segmenting the stakeholders (Jeffery, 2009). The project beneficiaries and supportive groups that have an interest in the project should form part of the process. The public would need to be skilled and knowledgeable on environmental management practices to have a meaningful contribution. An engaged public improves social learning through deliberation, conflict management, outcome mapping and allows communities to adopt project outcomes. The ability to ensure sufficient participatory processes include the capacity of environmental consultation firms to carry out such work.

It is the responsibility of institutions, civil society and organizations to ensure that engagements are transversal and provide all parties involved a fair opportunity to partake in the decision-making processes. Social justice requires robust policies in a multitude of areas that promote the welfare of its people (United Nations. Division For Social Policy, 2006).

2.9. The evolution and need for Social Justice.

Social justice is a concept that originates from the 19th century during the industrial revolution (Jackson, 2005) and defined as “justice exercised within a society”

(Stronks, Toebes, Hendriks, Ikram & Venkatapuram, 2018, p. 5). The term was first adopted by the United Nations (at the initiative of the Soviet Union) in support of developing countries in the Declaration on Social Progress and Development in 1969. It is also contained in the Charter of the Economic Rights and Duties of States (United Nations. Division For Social Policy, 2006). It is a tool that was meant to develop and govern relations between countries. Initially social development programmes were aimed at fighting poverty and having social grants funded by the tax system to develop the human tribe. Social justice was likened to distributive justice whereby emphasis was placed on the distribution of social goods such as opportunities and power (Stronks et al., 2018) and the distribution of funds within public institutions (Miller, 2001). As social development programmes continued, institutions learned that social development may not be confined to eradication of poverty and should encompass a greater spectrum of issues.

Social justice is framed as *"*parity of participation*"* by Fraser (2000, p. 309) who emphasizes the recognition of all participants and the importance for all stakeholders to actively form part in the decision-making processes. For the Director General of the World Health Organization the essence of social justice is the concept of "valuing every human life equally*"* (Odeny & Davidson, 2022, p.1). The term social justice, however, has various definitions within literature. The limited consensus on its definition therefore necessitates the need for defining it for the purpose of this study. This paper defines social justice as the ability of representatives, institutions or organizations to ensure equality, fairness and to promote social change. In doing so it must ensure that the views, cultures and humanity of the project beneficiaries are respected.

Social justice promotes equality and equitable access to resources of all individuals and communities and the political will in doing so.

It is a product of humanity which exceeds any political intent and allegiances that exist (Shufutinsky et al., 2022). The paper argues that social justice ensures that every member of a society should have equitable access to resources while protecting

the cultural identities of societies. Social justice is predominantly about equality, fairness, inclusion, transformation, social change and sustaining humanity. It redresses marginalization or conditions, which prolong exclusionary practices. One cannot achieve social justice in the absence of public institutions with policies that do not?? aim to uphold human dignity. Social justice, equality and equity are sometimes regarded as different things, but is often casually and interchangeably used.

South Africa is considered one of the most unequal countries in the world. There is a gap in the distribution of wealth, income and public resources, which emphasizes the moral state and political instability of reform policies (United Nations. Division For Social Policy, 2006). The management of water resources by the DWS is a challenging task considering that water is both an economic and public good. South Africa experiences inadequate rainfall patterns, uneven water resource patterns throughout the country, a growing population as well as strained and deteriorating water quality (Molobela & Sinha, 2011). Public institutions are important as they develop and regulate redistributive policies that aim towards social justice (Miller, 2001). The role of the water management institutions towards sustainable resources can therefore not be ignored.

2.10. The Social Justice Framework.

Social justice should bring social change, provide equality and contribute towards sustainable development. Social justice intends to uphold the constitutional rights of its citizens by having institutions and representatives that advocate for the upliftment or maintenance of both social and economic factors for its project beneficiaries (Powers & Faden, 2006). The principles of social justice require reforming established social institutions and structures and provide a fair distribution of benefits and drawbacks of activities and resources (Miller, 2001). The distribution of the activities or resources need an institution and regulations to play an oversight role to ensure that all stakeholders are protected. It is key to understand that as public participation is a requirement to achieve social justice (Razzaque, 2009).

The Social Justice Framework interrogates the value and accessibility for people to effect into the decision-making processes and promote social change (Powers and Freedman (2012). The Social Justice Framework aims to address geographical, sociological, political and cultural issues, which affect relationships between interest groups to sustain justice (United Nations. Division For Social Policy, 2006). It identifies and addresses organizational dynamics, which may contribute to social injustices (Lukasiewicz et al., 2013). Furthermore, it models considerations to achieve social justice during public participation and decision-making. The Social Justice Framework consists of three components, namely the distributive justice, interactive justice, and procedural justice which addresses issues of equity, redistribution of resources, accessibility, democratic representation and transparency during the decision-making processes. (Lukasiewicz & Baldwin, 2017).

Distributive justice is defined as a system that allows stakeholders equitable access and opportunity to resources. It assesses the ability for decision-making to ensure equality and fairness by ensuring that the processes represent the views of affected stakeholders by adopting a predetermined allocation strategy (Cropanzano, Ambrose, Greenberg & Cropanzano, 2001). It enquires into the fair allocation of rewards, powers, rights and responsibilities on public resources (Cook & Hegtvedt, 1983).

Interactive justice integrates the power relations that exist in the decision-making processes and how decision-making responds to the nations' welfare. It seeks to understand the treatment, propriety, and courtesy that participants are subjected to within the decision-making process (Luo, 2007).

Procedural justice recognizes a need for systems and standards that guide stakeholders that would promote transparency and the fair distribution of resources (Cropanzano et al., 2001). It assesses the structures and systems utilized in the decision-making processes to limit bias during the participation processes thereby improving the transparency and accessibility of the information to stakeholders and accuracy of the information (Luo, 2007).

The research focuses on the Departments' contribution in ensuring that public participation processes are inclusive and reform the water resource management practices in a manner that contributes towards social justice by using the Social Justice Framework. The summary unpacks the Social Justice Framework. It details the social justice components, which are then applied to this study addresses the water resource management practices by the DWS.

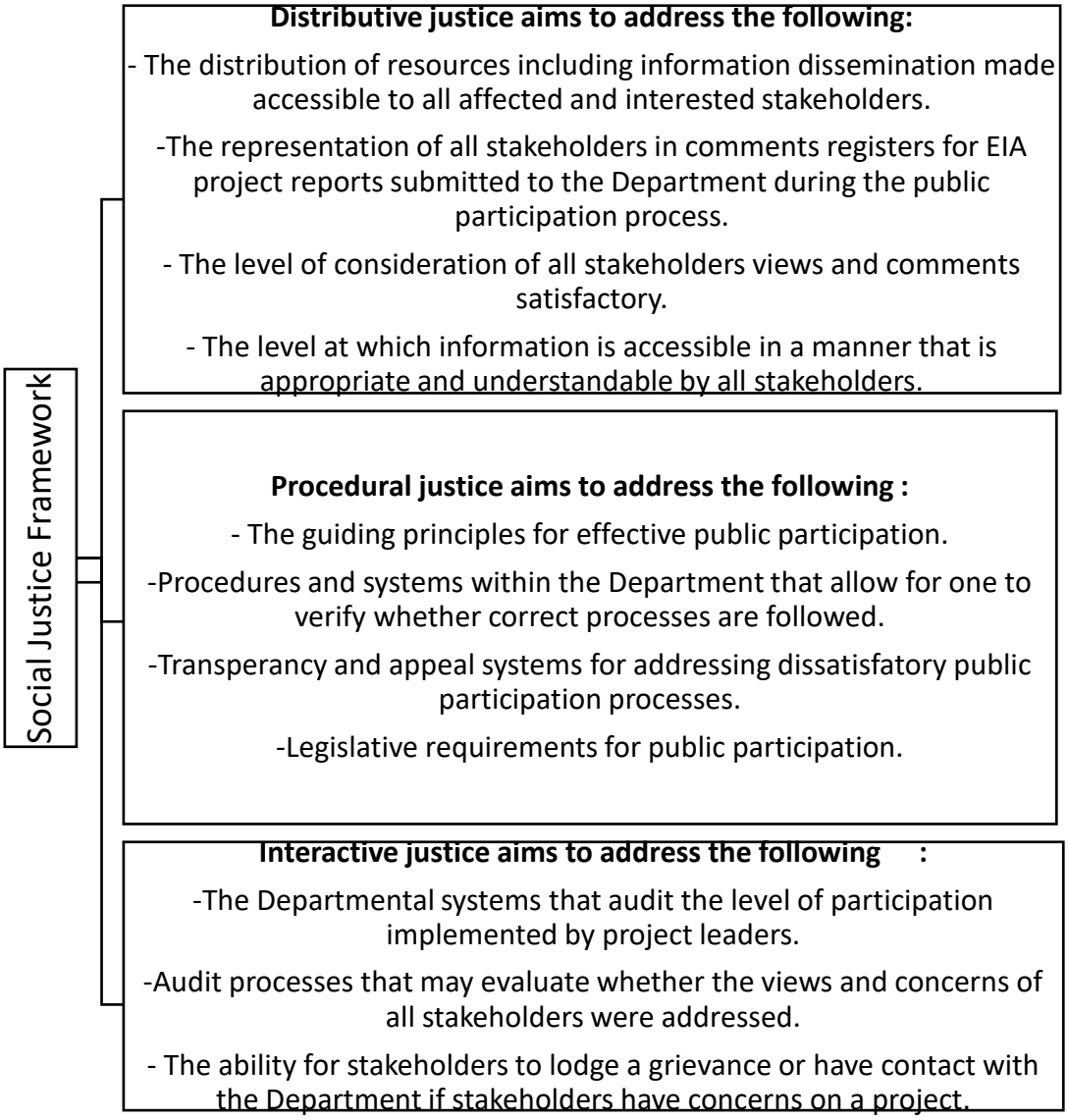

Figure 4: Social Justice Framework

Source: Lukasiewicz & Baldwin, 2017.

Chapter 3: Research methodology

This chapter outlines the research methodology which was employed within the Upper Vaal WMA in obtaining data the management of public participation. In providing such details, it outlines the how the questionnaire was framed against the Social Justice Framework and the type of analysis completed for both primary and secondary data. It describes the ethics, limitations, and feasibility of the study as well as the positionality of the researcher. This chapter provides insights on the validity, reliability and dependability of the study.

The research was undertaken to establish whether Environmental Officers ensure social justice when managing public participation processes during the implementation of the IWRM. For this study, the research methodology and data analysis are based on the Social Justice Framework. The study was conducted by interviewing Environmental Officers that are responsible for the water resource management activities of the Department through the WULA process. In triangulating the information, the researcher assessed the EIA documents that were sent to the Department in compliance of the WULA process. The latter requires the applicant to submit stakeholder engagement reports. The aim was to draw conclusions on whether these reports factor into the decision-making process.

3.1. Research Approach

The study is a qualitative interpretative study utilizing interviews to gain an understanding of the management of public participation by Environmental Officers. This is done by exploring their experiences, knowledge and opinions of the officials employed by the Department responsible for water resource management within the Upper Vaal WMA. A quantitative research approach was not suitable for this research as it may have limited discussions and social expressions (Rutberg & Bouikidis, 2018). A qualitative approach is appropriate as it provides the opportunity to understand the knowledge and perspective of Environmental Officers in realizing their role in promoting social justice.

The study evaluated EIA documents of previously assessed WULAs to increase the validity and reliability of the study. The assessment of the EIA documents was guided by the Social Justice Framework and the legislative requirements for public participation. The usage of secondary data is beneficial as the data already exists, it reduces the costs and time as well as reduces the researchers bias associated with attaining primary data (Sørensen, Sabroe, & Olsen, 1996).

3.2. Research design

The research is a basic interpretative study design that utilizes qualitative research methods to draw data to provide information on a manner which the Department manages the public participation processes within the IWRM. This type of research allows one to define the experiences of participants (Paul, 2015) by gaining insight from the experiences, audience, geography and emotions of the participants (Weinreich, 2009).

3.3. Data sources and collection

3.3.1. Primary data sources and collection

Primary data sources are considered information that has not been analysed for any other situation (Golafshani, 2003). The study was conducted through semi-structured interviews which allowed participants and the researcher to engage openly and explore issues. The semi-structured questions were based on the Social Justice Framework discussed above.

The population consisted of Environmental Officers located within the Institutional Management and Water Use Licensing directorate responsible for the issuance of water use authorizations and the IWRM at the DWS. The respondents were individuals employed within the DWS Gauteng Provincial Office that had more than two years' experience working on water resource management. A purposive sampling strategy was relevant for this study as it allows the researcher to be specific on the sample population while providing an opportunity to have variance in experiences on a common topic, a small sample size and a form of non-probability

sampling as the sample population needed to have a specified characteristic (Rai & Thapa, 2015).

The researcher sent out the participation information sheets which detailed a background on the study, its purpose and intentions which allowed the participants to make an informed decision. A schedule was sent with three proposed dates with all the interested participants and appointments were allocated. It was a challenge to secure the Environmental Officers due to the change in working conditions resulting from Covid pandemic, an interest in partaking in one-on-one interview sessions and considering that the participants are field workers. The researcher approached 16 Environmental Officers, ten participated in the study, two requested to conduct the sessions online, however failed to honour the appointments and four indicated their discomfort in partaking in the study. The researcher however was comforted by the level of expertise of the participants as this allowed one to confidently proceed with the data provided as the results will be reflective of the management of public participation at the Upper Vaal WMA.

The interviews were conducted individually and face to face. The interviews lasted 35 minutes. It is important to note that there are a limited number of Environmental Officers within the Upper Vaal WMA due to the nature of the WMA and organizational design by the Department.

The participants responded to predetermined questions such as their understanding of public participation, their experience of the Department's management of the public participation process and their views on the Department achieving social justice through its administrative processes.

The interviews were structured into three parts. Firstly, it sought the biographical information of the participants such as the age, ethnicity, work experience and highest qualification obtained. Secondly, it explored the views of the Environmental Officers on the management of public participation to ensure social justice. Lastly, it gathered the experiences of Environmental Officers on the ability of

the Department's public participation processes to achieve equity using the Social Justice Framework.

The questions which were posed to the participants sought to understand how participants describe effective public participation processes; their perception of the management of the public participation by the Department; their thoughts on the distribution of information during the public participation process to ensure justice during WULA and EIA processes; whether stakeholders understood the information provided and processes followed to ensure equitable access on decision-making processes; the interventive steps by the Department in cases some stakeholders are excluded from the process, the procedural guidelines which provide for effective participation and finally, the social learning from the public participation processes. All interviews were recorded, transcribed and thematically analysed.

3.3.2. Secondary data sources and collection

A purposive non-probability sampling technique was used to select the EIAs and license applications. EIAs and license applications evaluated between 2015 and 2020 were considered. The researcher anticipated to use the water use licence applications register which monitors EIA documents received sent to the DWS however the registry department indicated that it would be difficult to trace the documents as listed against the register which resorted to the DWS randomly providing readily accessible EIAs. The researcher accepted this arrangement as the process was random and to some extent, still conformed to the non-probability sampling technique. The registry however understood that the 3 EIAs needed to be a mine, industry or government entity application, they needed to have been evaluated between the year 2015 and 2020 to ensure it complied to a similar legislative framework and the application for water rights should have exceed 10 000 m^3 if it included an application for an abstraction or storage of water to ensure that the application was considered a high-risk activity.

The data collection was divided into five parts.

The first part sought the project details of the EIA specifically the project name, applicant name and the type of sector the organization operates, the date the EIA was submitted to the Department as well as the Departmental reference number on the application.

The second part aimed to extract data that portrayed the type of water uses the applicant lodged at the Department as well as the volumes of water that will be used during the project, if applicable. The aim for collecting this information was to gain insight to the magnitude of the project and validated the need for the application to comply with the requirements for a water use licence. The Department requires a user to apply for a water use licence when water use activities are considered to have a high risk or within certain thresholds.

The third part was to understand the ability of the organization to conform to the procedural requirements on public participation as set out by the DWS and the DEA. This aim of the third part was to analyse the inclusion of a stakeholder engagement specialist during the participation process, the accessibility and quality of the EIA report presented to the public and the publication of media calling for public comments. Government Gazette No 40713 requires the public participation report to include the objectives of the project, proposed activities, contact interested and affected individuals to outline the intentions of their organization and provide written comments from the stakeholders. This process forms part of the WULA process. Collecting this type of information would allow the reader to understand whether the processes implemented by the applicant contributed towards procedural justice. It would also provide insight on the strengths and weaknesses of EIA documents as instruments of social justice.

The fourth part focused on data collection that would establish compliance with the distributive requirements of information during public participation as set out by the DWS and DEA. The objective of the questions was to understand whether the project identified the relevant stakeholders, the ease stakeholders accessed information and the processes which were followed to address the issues which emanated from the

consultation processes. In analysing this information, we got to understand whether project leaders are intentional in ensuring an inclusive process. Regulation 807 published in the Government Gazette No. 35769 Government guides the applicant on the process of public participation. This includes the method for notifying interested and affected stakeholders, the level of participation required and a classification of the interested and affected participants. It also provides standards and requirements to ensure that all stakeholders are catered for. This process forms part of the EIA process legislated by DEA.

The fifth part collected data on the channels which were used to interact with the participants, whether they understood the intentions of the project and partook in the decision-making processes based on past experiences or on the expectations they might have on the project. This part sought to understand whether the participants were consulted with the aim to improve the project goals or merely support the process for compliance purposes.

Initially, the study focussed only on analysing the inclusions of the Social Justice Framework within the EIAs however, during the data collection process, the researcher found it important to include elements such as the project description, the type of water usage of the project and the issuance status. The researcher found that including the project description and type of water usage activities that were applied for consideration of the water use licence, would allow an understanding of the proposed project the applicant had lodged with the Department. It also included the social and environmental risks associated with the projects. The researcher found it important to highlight the water use licence issuance status by the Department including the contributions found within the stakeholder engagement reports to as it was important to understand whether public participation affects the decision-making processes.

3.4. Data analysis

3.4.1 Primary data analysis

This research focuses on themes identified to guide the analysis and interpretation of data. Thematic analysis is a process which involves identifying and organising information to report on the findings within a qualitative study (Clarke, Braun, & Hayfield, 2015).

3.4.2. Secondary data analysis

The research analysed the EIA using the Social Justice Framework to make assumptions on the management of the participatory processes by the Department.

The data collection was structured in line with the Social Justice Framework and found data within EIAs which conformed to its principles. The analyses included analysing the manner information was distributed and procedural processes undertaken to ensure an inclusive process. The analysis evaluated the level of inclusion of different social groups and disabled people. The process assessed the level project managers aimed to contribute towards social learning in their initiatives.

Based on the Social Justice Framework, the study provides an analysis of the three EIAs separately It also identifies the similarities from these documents.

3.5 Ethics

The researcher was informed of the ethical procedures and requirements for data gathering as guided by the ethics committee of the University of Witwatersrand. The study was conducted in line with the ethical requirements of the University.

The researcher approached the Department before engaging with the personnel and detailed the objectives, research approach and ethical standards that will be maintained during the study. The Department of Water and Sanitation approved and provided ethical clearance for the study.

Environmental and social justice studies can be politicized which requires one to be cautious when addressing such content. The researcher was sensitive when compiling and structuring the questions. The participants were informed of the intentions of the study and indicated that they have an option not to answer some of the questions which they felt were uncomfortable. This research maintains the confidentiality of the participants by labelling the participants numerically which allowed the researcher to identify the respondents while preserving confidentiality with the understanding of the political environment of the employees.

All participants signed off a confidentiality sheet and were provided a participant's information sheet which detailed the purpose of the study, confidentiality issues and the ethics related to the study, amongst other matters. The participants provided their consent to record the interviews. None of the participants showed any discomfort in answering the questions and the researcher continually affirmed that the participant did not have to answer any of the questions if they were uncomfortable at any phase of the interview.

EIA documents were availed to the public for comments during the project planning phase for comments and may be found in the public domain. This research approached the Department for copies of EIA documents for the purpose of this study as a manner to ensure that the evaluated EIAs are associated with a water use licence. Some EIA documents and projects may not be requiring a water use licence hence it was key to obtain copies from the Department. Also, it is key to understand that the documents may not be easily accessible due to the bureaucratic processes within the Department however EIAs are not considered confidential.

3.6. Limitations and feasibility

The sampling method for the EIAs was a non-probability method and localized to a single water management area, which may not reflect the public participation management outcomes of the EIAs in other water management areas. The study provides a true reflection on the research site at that period which may change as the Department advances its strategies.

It was anticipated that Environmental Officers will admit that public participation tends to exclude project beneficiaries in the decision-making process; the conversation might expand towards the limitation of resources, guidance and education regarding water resource management by project beneficiaries. The researcher's assumptions were correct, however, the Environmental Officers indicated that the socio-economic status of communities play a major role, and this could not be ignored. It was important for the researcher to keep an open mind and have open ended discussions in order to identify such emerging themes.

The Department aims to decentralize water resource management functions to assist achieve constitutional objectives through social programmes and reallocation of resources which includes ensuring representation of all interested and affected stakeholders during project management.

3.7. Positionality

The researcher has been employed by the DWS for a period of ten years and worked in an array of directorates within the Department including water quality management. As an employee, the researcher was an Environmental Officer at the Gauteng Provincial Office for a period of three years and the requirements included understanding the NWA, the Water Services Act 1997 and related Environmental legislation.

The Environmental Officers are employees within the Department located at the Gauteng Provincial Office. The researcher is an assistant director that is responsible for an oversight role on key institutions, as stipulated within the NWA, to implement the principles of the IWRM. The researcher is currently responsible for establishing water resource management institutions particularly the Catchment Management Agencies as well as the transformation of Irrigation Boards to Water User Associations however has no direct influence on the implementation of the IWRM principles by the Environmental Officers and currently works at the National Office within the Department of Water and Sanitation.

The researcher, as an employee of the DWS, was interested in understanding whether Environmental Officers within the Department have a common understanding of their role in implementing the IWRM principles which includes public participation of all interested and affected stakeholders.

The researcher has no influence on the EIA documents submitted or the any part of the public participation processes within the Upper Vaal Water Management Area.

3.8. Validity, reliability and dependability

Validity, reliability and dependability helps to ascertain the quality of one's research and its outcomes (Golafshani, 2003).

During the data collection phase, the quality of the research might have been challenged by incomplete information or wrongly captured information during the transcription process. It was important for the researcher to ensure that every interview is recorded to improve the credibility of the work. The researcher did not take notes during the interviews as they wanted to assess the participants' body language to ensure that they are comfortable throughout the engagements.

The researcher might be biased on comments provided by participants as literature might propose the alternative to data collected. It is important to structure the questionnaire to introduce the main topics however having open ended discussions allowed the participants to share their experiences without bias. It was important as well for the researcher to avoid leading the participants. It was important that the researcher, having read so much content on the matter, needs to ensure that their values are not a hindrance to the research outcomes. The findings of the research needed to be based on the data gathered, and not the researcher's pre-conceptions or a re-presentation of the literature.

The secondary data is extracted from EIAs submitted for consideration of a water use licence. The EIA are secondary data sources which might have been

developed for a different purpose which might influence the reliability of the data (Ruggiano & Perry, 2019). The researchers' analytical framework ensured consistency in evaluating the EIAs.

Chapter 4: Data Presentation and analysis

This chapter aims to present and analyse the data found during the interviews and assessment of the EIA documents. As highlighted within the research methodology, the questionnaires were frames against the Social Justice Framework and the EIAs are assessed in consideration of these principles as well. This chapter presents the data obtained on the management of public participation in achieving social justice for both primary and secondary data.

The study was completed by 10 participants composed of four female and six male respondents. Most of the participants were older than 36 years and all were classified as black Africans. The study found that 9 nine of the participants had been employed for more than 10 years in the Department on water resource management. Table 2 below provides the biographic data of the participants. The participants all have postgraduate qualifications. This detail should be in the previous chapter.

Table 2: Biographical information about the participants

Participant ID	Highest Qualification Obtained	Employment period at DWS
1	Bachelors degree	>16 years
2	Honours degree	>16 years
3	Honours degree	10-15 years
4	Bachelors degree	6-10 years
5	Bachelors degree	10-15 years
6	Bachelors degree	10-15 years
7	Honours degree	>16 years
8	Honours degree	10-15 years
9	Honours degree	10-15 years
10	Honours degree	>16 years

It is observable that the Department has a great employee retention strategy. The employees have been with the Department for longer periods and their experience in water resource management is commendable.

4.1. The Environmental Officers understanding of the public participation.

The Environmental Officers regarded public participation to be a legislative requirement and an empowering and developmental process. It is also a consultative process and a procedural practice.

Public participation is a legislative requirement which is a constitutional obligation whereby public institutions are mandated to facilitate public involvement in its laws and regulations and through its existing committees and associations (Syma Czapanskiy & Manjoo, 2008). One of the participants stated that the process requires that

> Communities must be involved and understand the process. Before we can come up with any regulation or policy, they need to be consulted (Participant 5, Nov 2022).

In defining public participation as an empowering and developmental process Participant 3 said that saying that public participation requires stakeholders to "understand and interact including the language and technical aspects (Participant 3, Nov 2022)". In support of these assertions, a participant indicated that:

> If a person does not understand, the public participation officials should educate the stakeholders on the matter and include both the positive and negative as well as the future results of the project (Participant 8, Nov 2022).

In describing the process as informative, Participant 6 (Nov 2022) indicated that, "the process informs the public of the project descriptions including the benefits, risks and opportunities. Another participant highlighted that "any person who might be disabled should be able to have access to participate" (Participant 9, Nov 2022).

All participants described public participation as a consultative process. Consultation is the process whereby government seeks interested and affected

exchange ideas and concerns on projects though the government authorities retain the power on the final decision (Bishop & Davis, 2002). Participant 2 stated that “effective public participation is a consultation with the relevant stakeholders who have an interest in the subject in question” (Participant 2, Nov 2022).

It was evident that participants understood that “participation is the expectation that citizens have a voice in policy choices” whether it is an individual or organized interest groups (Bishop & Davis, 2002. p.14). In the words of as participant 9

> All concerned and interested and affected people should be able to be consulted including the neighbouring stakeholders. Any person who might be disabled should be able to have access to participate. All people should be involved extensively in the project. The communication should be communicated to all people (Participant 9, Nov 2022).

The interviews showed that there was consensus among Environmental Officers that the public participation processes by the DWS should be somewhat streamlined.

4.2. Brief description of the EIA documents which were evaluated.

This study evaluated secondary data from three project EIA reports provided by the Department, which consisted of the SASOL South Africa seepage reduction activities and construction of monitoring weirs project (labelled as document 1), the Canyon Resources (Pty) Ltd Palmietkuilen Mining Project (labelled as document 2) and the installation of the Evander Gold Mine second plant for the re-mining of the existing Kinross, Bracken/Leslie and Winkelhaak Tailings Storage Facility (TSFs) project (labelled as document 3.) Below is a description of the project activities and water uses applicable to the project.

4.2.1. SASOL South Africa Seepage Reduction Activities and Construction of Monitoring Weirs project description (Document 1).

Sasol South Africa, a petrochemical industry located at Secunda in the Govan Mbeki Local Municipality, submitted a WULA in June 2016 with an EIA report to construct a seepage reduction system, which will assist in managing the impact of the unlined wastewater dams at SASOL South Africa. The seepage reduction system would include constructing monitoring weirs, seepage reduction measures, single spill well and extending the piping system activities which would reduce potential waste entering the water resources from the ash disposal facilities and process water dams located in the SASOL Secunda Industrial Complex. SASOL South Africa intended to construct several seepage reduction activities at the van Niekerk Dam and east of the coarse ash dump to prevent further deterioration of water quality in nearby streams. The water uses identified as guided by section 21 of the NWA were 21 (c) and (i) which describe the “impeding or diverting the flow of water in a watercourse” and “altering the bed, banks, course or characteristics of a watercourse (Document 1).

4.2.2. Canyon Resources (Pty) Ltd Palmietkuilen Mining Project by Anglo Operations project description (Document 2).

Anglo Operations Limited applied for a water use licence (reference: 27/2/2/C521/24/1) which included an EIA with a stakeholder engagement report in July 2018 for the proposed Canyon Resources (PTY) LTD mining project. The proposed project would have taken place at Springs located at Mpumalanga province within the Lesedi Local Municipality. The project involved the development of a new open pit coal mine and the associated infrastructure located on Portion 2 and 19 of the Farm Palmietkuilen 241 IR. It proposed that the coal reserves would be mined using bench and strip-mining techniques in one open pit mine. The processes included removing the topsoil, drilling, and blasting bedrock to expose the coal seams amongst other mining techniques. The extracted coal would be processed through the crushing process and stored at the product stockpile area before transported to clients. The project will require the construction of an open pit mining, processing plant with fuel storage haul, conveyor belts and access roads for transportation of coal, mine dump

area for waste products, two pollution control dams, stormwater management infrastructure and sewage treatment plant, site and security offices. The project would have resulted in section 21 (a), (c), (f), (g), (j) and (i) of the NWA water use activities. (Document 2).

4.2.3. The installation of the Evander Gold Mine second plant for the re-mining of the existing Kinross, Bracken/Leslie and Winkelhaak Tailings Storage Facility (TSFs) project description (Document 3).

Evander Gold Mine (Pty) Ltd located at Evander in Mpumalanga province submitted an application for a water use licence with the Department in March 2017. It included an EIA and stakeholder engagement report for the proposed project, which entailed consolidating the existing three TSFs (Winkelhaak, Kinross and Leslie) into a single TSF.

The project aimed to expand the existing Kinross TSF. This project would require construction of a carbon in leach plant and smelt house, penstock pipelines to drain water to the return water dams and storage facilities for hazardous waste. These activities resulted in section 21 (c), (f), (g), (j) and (i) NWA water use activities (Document 3).

4.3. Emerging themes identified from the data collection processes.

As previously stated, the study consisted of interviews with the Environmental Officers to understand the management of public participation. It also extracted data from the EIA documents that were provided by the Department, which were used to make decisions on the Water Use Licence process, to evaluate the assertions made by the Environmental Officers. The emerging themes identified from the interviews are that the public participation is completed as a tick box exercise; that there is a lack of clear operational protocols and guidelines on the management of the public participation processes; that marginalized groups are excluded in the water resource management decision-making processes and, finally, that the EIA processes for managing public participation are mismanaged by the DWS and DEA.

4.3.1. Public participation as a tick box exercise.

A number of participants indicated that public participation is completed as a tick box exercise. A participant indicated that:

> project managers are interested in ensuring their projects are a success. At times they advertise for comments during December seasons/ festive season which limits the participation on their projects. It has become a tick box exercise (Participant 1, Nov 2022).

When public participation is conducted as a tick box, it may be completed for compliance purposes to mark off legislative requirements, process might be completed to coerce groups into supporting the project to influence government decisions, some stakeholders might be intimidated during the process and their choices to provide consent over projects might be disrespected (Pape, 2021). It should be governments' priority to ensure a just process which allows all stakeholders a dignified process that protects their views. Participant 8 said that:

> Consultants do not provide enough information and education on a project. They limit the risks and information related to the project (Participant 8, Nov 2022)

Participant 1 argued that, "the project managers do not provide sufficient timeframes on the venue or time to allow engagements (Participant 1, Nov 2022)". In support of this outlook, a participant 5 (2022) indicated," lazy consultants would not do it efficiently and also the cost implications plays a factor. Unfortunately, the only regulatory tool we have is when they submit their authorization for processing, and it undergoes a review". It is questionable whether the exclusion or inadequate public participation processes by project leaders is intentional and predetermined as the process for evaluating the effectiveness of public participation by project managers might have been an interest orientated evaluation which considers the interests of a subset of population and are not objective by nature (Beierle, 1999).

Participant 7 recommended that

> the Department needs to have a database of users, a validation process and follow ups. The reliance is mostly on the information presented by the consultants or project leaders (Participant 7, Nov 2022).

The study assessed the availability and stakeholder engagement processes within the EIA documents which were submitted for a water use licence. The Sasol South Africa (Pty) Ltd EIA project report presented proof of notices which were published in the *Ekasi News* dated 14-21 December 2012 and *Ridge Times* newspapers dated 30 November 2012. These project reports detail the proposed activities, project overview, contact details, the applicant and location of the activities. The closing date listed as 19 January 2013, copies of EIAs and Background Information Documents which were placed at the surrounding farms where the proposed activities might impact, notices at the Govan Mbeki Local Municipality offices the Secunda Library and the Sastech Library (Document 1). The Canyon Resources project report was published on the website of the consultant (www.digbywells.com), notices were published on the local newspaper the *Springs Advertiser* on 18 August 2016 with a registration form for an opportunity to attend the physical consultation at a venue. The notices were also displayed at various main roads, chicken farms, libraries (including the Heidelburg public library) and Aston Lake. Contact details were also provided to allow stakeholders to partake in the consultation. The comments period in the notices was from 12 August 2016 to 10 September 2016 (Document 2). The Evander Gold Mine EIA report showed that the stakeholder consultation processes included a published EIA online accessible at www.cabangaconcepts.co.za. Printed copies of the EIA reports which were made available at the Evander public library, the Evander magistrate court, the Embalenhle library and the Evander Gold Mine central offices. The EIA was availed by emailed to the participants registered on their stakeholder database as well. The comments period was listed for a period of 30 days from 04 October 2016. However, the notice was published onto the *Echo* newspapers on 30 September 2016 (Document 3).

The EIA reports evaluated, illustrated that the project managers were interested in consulting the stakeholders on their proposed project, to provide stakeholders with sufficient information and time to be able to participate in the decision-making processes. The EIA reports which were evaluated all included stakeholder engagement database lists of interested and affected stakeholders. The information provided during the interviews supports the information contained in the EIA documents which were evaluated.

4.3.2. Operational protocols and guidelines on the management of the public participation processes.

From the interviews with the Environmental Officers it was obvious that some of the participants were dissatisfied with the management of the public participation process. Participant 7 felt that:

> The DWS are not fully capacitated on public participation hence it's hard to monitor whether one does an effective public participation. The reliance is on the outcome of the process, and they do not partake in the process (Participant 7, Nov 2022).

The WULA processes requires Environmental Officers ensure public participation, however does not provide compliance standards and specifications to ensure that the processes are fair. During the interviews, it was evident that most of the participants could not confirm whether there is an existing framework that provide that addresses the role of DEA in managing public participation that would exempt Departmental officials from managing the process. Participant 6 (Nov 2022) said "there is no guidance on the public participation processes or any outline on the grievance processes within the Department. If there are any than they are not effectively communicated". In support of these assertions, another participant indicated that:

> The Department of Water and Sanitation relies on the Department of Environmental Affairs public participation procedures and guidelines. If one applies for a licence, they cannot address the

> public participation issues effectively due to the limitation of regulations on public participation processes. For an official of the Department of Water and Sanitation, the public participation process does not play a major decision-making role. The participation process is also not validated by the environmental officers (Participant 4, Nov 2022).

There seems to be conflicting views on the existing legal framework by the Department on the procedural requirements which manage public participation. The participants referred to the *"*guidelines which provides insight on the public participation processes*"* (Participant 8, Nov 2022) while other participants indicated that, "the DWS relies on the DEA public participation procedures and regulations. If one applies for a licence, they cannot address the public participation issues effectively due to limitation of regulations" (Participant 4, Nov 2022). Participant 10 (Nov 2022) indicated that they, "have never seen any guideline on public participation within the Department".

The evaluation of the EIA documents showed that the project managers complied with most of the EIA legislative and procedural requirements on public participation. The Sasol South Africa report provided the Background Information Document which provides details of the proposed project, the EIA and included documents obtained through the stakeholder engagement process (Document 1). Evander Gold Mine (Pty) Ltd provided a database of stakeholders who were invited to comment on the proposed project. The EIA and stakeholder report included proof of public meetings held. The stakeholders were informed and reminded of the proceedings. The applicant shared information on activities, contact details and a comments register was attached to the application sent to the Department (Document 3). The Sasol South Africa report provided a website link and did not provide access to any hardcopies of the documents required for consultation (Document 1). The Canyon Resources report placed some hardcopies in public areas such as the library (Document 2) and the Evander Gold Mine report placed hardcopies and consulted participants at a public location (Document 3). The evaluated EIA reports provided variances on the public strategies which were employed to identify the interested and

affected stakeholders, the communication strategies and the stakeholder reports presented.

The responses provided by the participants indicated that the lack of clear protocols and guidelines hamper the Department's oversight function, the Environmental Officers are not clear on existing guidelines and protocols regarding public participation within the Department and the differences in the consultation strategies from the 3 EIA documents evaluated confirmed that there is no synergy in the manner project managers consult the stakeholders.

4.3.3. Exclusion of marginalized groups within Integrated Water Resource Management.

The study showed that the socio-economic state of communities and level of knowledge or interest on environmental management affects the level of participation on projects. Participant 2 acknowledged that:

> the documents do have information however the consultation process following people that may be impacted directly is not followed correctly or extensively. You find people that are directly affected or having projects done in their communities are not aware of the projects in their areas. Communities might not have the documents. Sometimes municipalities were consulted, and documents placed in the libraries. It is not always inclusive as communities might not have the technical capacity to form part of the consultation (Participant 2, Nov 2022).

Participant 4 said:

> communities are misrepresented during the process and the involvement of the communities is not investigated. There is no verification of the evidence provided on the participation process

> and there are no checks ups on the information provided (Participant 4, Nov 2022)

Another participant indicated that, “morale of communities to provide comments is negatively affected when their issues are not addressed or considered” (Participant 2, Nov 2022). The data indicates that the public participation processes by the Department is a contributor to the loss of interests by communities and some social groups into water resource management.

The participants indicated that the political landscape of our societies and the economic benefits influence the decision-making processes. Participant 2 (Nov 2022), said that the “Department is focused on the issuing of licences and does not necessarily give attention to social issues”. The case of offsetting environmental protection for financial gain involves project managers presenting financial reserves for rehabilitation, rehabilitating or maintain conservation projects to attain buy in from authorities or providing an action plan and rehabilitation strategies to remedy the impacts of project activities (Calvet, Napoléone & Salles, 2015). Participant 4 (Nov 2022) said that “in townships and villages, the public participation is limited and looks at the economic benefit rather than the project”. A participant with 10-15 years environmental management experience said that some stakeholders would attend meetings to understand if there would be any jobs that will come off from the project” (Participant 8). The study found that people no longer have an interest in participating in water resources management projects as their concerns are disregarded and do not affect the WULA decision-making processes. The main interest by the historically disadvantaged individuals are whether a project would yield economic benefits.

The participants indicated that some applicants followed the procedures laid out in the regulations however, the socioeconomic status and disabilities e.g., the literacy rate of most communities are not catered for as applicants rarely make provision to meet the needs of these groups. Participant 4 (Nov 2022) indicated that,” the educational background plays a major role”. The analysed EIA documents showed that the Sasol South Africa (Document 1,) and Canyon Resources (Pty) Ltd Project (Document 2) did not provide proof of investigating the social diversity, nor catering

for stakeholders with special needs i.e. individuals that lack the skills to read or write. The Evander Gold Mine EIA reports attached the notices calling for stakeholder engagement in English, Afrikaans, and Zulu, which catered for the various language groups in the area (Document 3). If the cultural and linguistic identities of the stakeholders are not considered,public participation may be compromised and democracy weakened(Sebola, 2017). The comments presented by the stakeholders on the Canyon Resources (Pty) Ltd Palmietkuilen Mining project provided sufficient detail on the project to allow stakeholders to provide meaningful participation. However, it was noticeable that most comments were provided by skilled, knowledgeable, and resourceful organizations (Document 2). These findings support the notion of the participants that the contribution and management of water resources is mainly for the resourceful individuals or organizations.

Participant 8 (Nov 2022), that has 10-15 years of experience within the Department, indicated that “the Department does not have stakeholder engagement specialists that focus on stakeholder engagements. The DEA should have personnel that assists to ensure that the public understands the process and understands the project fully so that they can participate which includes the language that should be used”. In analysing the EIA documents, we found that the Sasol South Africa (Pty) Ltd project was led by SRK Consultants and signed off by a principal scientist and did not refer to a stakeholder engagement practitioner that was part of the processes (Document 1). The Canyon Resources project was led by Digby Wells Environmental which had a stakeholder engagement officer and Stakeholder Engagement Specialist. (Document 2). The Evander Gold Mine project was led by Cabanga Environmental consultants (Pty) Ltd employed Barbara Kasl an environmental scientist and Jane Gayle Kennard who was listed as the environmental professional as project leader for the EIA process (Document 3). The analysis of the EIA documents showed that only one of the three EIA reports included a stakeholder engagement specialist, and the two stakeholder engagement reports were developed by an Environmental Practitioner.

Environmental Officers understand the impact social capital may have on environmental projects. Participant 7 (Nov 2022), with more than 16 years of experience within the water resource management function, indicated that *"*there is no information management or educational background that informs people to participate. People cannot own a project they do not understand*".* Participant 3 (Nov 2022), with more than a decade in the IWRM, indicated that if these projects are *"*done properly, you get buy in which translates into ownership*"* and that the Department does not expect that "all beneficiaries will take ownership of projects". Social capital is the correlation between the involvement of members or communities that use opportunities to create or gain economical return (Jackman, & Miller, 1998). Government Gazette No. 35769 (Government Notice 807) requires the applicant to consider the literacy of the community members and the social diversity e.g. socioeconomic status and cultural values of the stakeholders. The participants recognize that public participation can be used to influence the culture and behaviour of people to care for the environment. One of the participants admitted that "throughout the 10-15 years of my experience, there has been change in how people react to environmental projects" (Participant 3, Nov 2022). This statement implies that the change might be gradual though there is a transition in the responses by communities towards environmental protection.

4.3.4. Existing water resource management governance structures.

The NWA recognizes Catchment Management Forums as instruments which create dialogue and maintain governance to protect water resources and bring water users together to improve on accountability, stimulate deliberation and provide input with the common interest to protect water resources (Munnik et al., 2016).

Participant 2 said:

> …the Department is managing the process quite well however the effectiveness is influenced by the Department of Environmental Affairs. The Department uses the Catchment Management Forums

> as stakeholder engagement platforms for water resource management (Participant 2, Nov 2022).

Participant 10 said that:

> Ten Catchment Management Forums which bring water users together such as NGOs, industries, organs of state including municipalities and government departments such as Department of Mineral Resources. The platform engages on both quantitative and qualitative matters related to environmental protection, social and economic dimensions (Participant 10, Nov 2022).

This information solidified the belief of the Environmental Officers that the Department has systems and structures established for the purpose of consulting the stakeholders on water resource management issues.

However, another participant felt that:

> Normally when these projects are presented at the Catchment Management Forums as there are expertise, these discussions are normally interactive. I think consultants can follow processes in accordance to the legislation however in terms of providing answers to questions relating to the project, consultants do not necessarily provide feedback to the people but document a report that is inaccessible to the interested parties. At times, when presenting to at the CMFs, the answers are not sufficient or there isn't enough time to address identified issues or the consultants may avoid answering these questions. (Participant 2, Nov 22).

During the evaluation of the EIA documents, it was found that the Sasol South Africa project presented at the Waterval catchment management forum (Document 1). This supports the view that project managers use Catchment Management Forums as

platforms for consulting stakeholders on matters related to water resource management.

Another participant shared concerns about the governance of the Catchment Management Forums indicating that:

> The Department of Water and Sanitation has Catchment Management Forums that are involved however there is a need for community stakeholders to assist in the environmental projects. Communities are not involved in the Catchment Management Forums and community liaising officers should be involved in the process (Participant 5, Nov 2022).

The data indicates that the Catchment Management Forums are not representative of all the stakeholders, which might be affected by the proposed projects. Another participant reinforced this by saying that, “communication does not filter to everyone that should be involved in the process. Mostly, the Department of Water and Sanitation targets the members of the Catchment Management Forums. Currently the management is not effective (Participant 7, Nov 2022).

The Department of Water and Sanitation has established the Water Tribunal (National Water Act, 1998) which is a” governing body that addresses grievances post issuance of a licence” (Participant 4, Nov 2022). One of the participants indicated that, “the Vaal Catchment consists of intelligent people that understand their constitutional rights. Where one does shortcuts, or you don’t give them equal rights, they would take one to task (Participant 10. Nov 2022).”

Participants highlighted that the grievance processes within the Department mostly caters for resourced social groups. A participant with a work experience of more than a decade cautioned that:

> Most of the time people that become lucky are people that are advantaged because they have the legal support and money to hire

> the legal authority. The process has loopholes as it does not cater for stakeholders who might be financially or socially disadvantaged. There should be a process which allows applications to be reversed to address insufficient public participation (Participant 8, Nov 2022).

Participant 7 (Nov 2022) indicated that, “If the DWS followed all processes and the decision is challenged through the court of law, this verifies that financially resourced people that normally have powers to provide social learning”.

In as much as the Water Tribunal is a platform established by the Department to redress water use licence decisions, another participant warned that, “there is minimum intervention on social issues within the Department related particularly to public participation. It is important to note that the Water Tribunal also might ask whether the insufficient participation process should halt the project considering its economic benefits” (Participant 2, Nov 2022).

The Catchment Management Forums are not representative of all the users within a catchment and the Department needs to intervene to ensure that all participants partake in water resource management functions. The participants further presented their lack in faith on the ability of the Water Tribunal to promote equity.

Chapter 5: Findings and Discussions

This Chapter discusses the findings from the data presented and analysed from the previous chapter. It further unpacks the themes which were identified from the interviews which sought to understand the management of public participation within the Upper Vaal WMA.

The study identified four themes which emerged from the data. The themes identified were public participation as a tick box exercise; operational protocols and guidelines on the management of the public participation processes; exclusion of marginalized groups within the Integrated Water Resource Management and existing water resource management governance structures.

5.1. Environmental Officers' outlook on the management of the public participation implemented for legislative compliance.

The first theme, whether public participation is a tick box exercise, the research found that there was no correlation between the assertions by the participants and the contents of the EIA documents. The EIA documents, which were analysed, portrayed multiple attempts to consult the various stakeholders within the water management area. Procedural requirements as stipulated by DEA on the management of the public participation were also followed. Conflicting views on the understanding and management of public participation can impair the validity of the issuance of the regulatory tools, deteriorate the public trust and derail constitutional goals of ensuring equity (Wesselink, Paavola, Fritsch, & Renn, 2011). Perhaps an in-depth study that would unpack the assertions by the Environmental Officers would allow one to gain more perspective in this regard.

5.2. The lack of clear protocols, guidelines and oversight on public participation and the need for capacity building initiatives for effective consultation.

The second emerging theme which was identified was the operational protocols and guidelines on the management of the public participation processes. The study found that the lack of clear protocols and guidelines on the management of public participation hampers the oversight functions of departmental officials and also that capacity building is needed. There is a need for internal systems such as continually reviewing internal stakeholder databases for each water management area and the improvement of the protocols by partaking in the public participation processes from project inception.

Considering these findings, it is important to note that Section 40 of the NWA provides projects managers the discretion to conduct public participation. The Department, to address this shortcoming, developed regulations which address the procedural requirements for water use licencing, which include the public participation requirements. These however, do not provide specifications that would support an effective consultation process (King & Reddell, 2015).

The DWS officials have admitted that they lack the skills and experience to facilitate the public participation processes, hence, decentralization of water resource management will fail (Lotz-Sisitka & Burt, 2006). The study found that Environmental Officers have a common understanding of public participation. However, they found the existing policies, engagement platforms and existing management structures as contributing factors to the absence of efficient participation. It is important for the DWS to revisit its policy frameworks to provide legal tools for the Environmental Officers to effect change within the management of the public participation processes. This will improve the procedural interventions and enhance accountability of the project managers in acting in the interest of both the environment and communities. Improper implementation of the EIA procedures can result in applicants conducting minimum participation or manipulating the processes, the submission of low-quality reports and minimum cooperation between the role players (Nita, Fineran & Rozylowicz, 2022).

It is key to recognize that Environmental Officers are faced with a challenge of playing a role of being a public policy specialist, an economist and an environmental regulator to protect water resources. Furthermore, water is a non-renewable and scarce resource and different people have different interests, which harden the decision-making processes. The IWRM encompasses a range of factors, which results in Environmental Officers operating within a multifaceted environment. The procedural efficiency of the Water Use Licencing process is affected by skills and capacity issues, which has created delays in issuing water use licences and an administrative backlog, which in turn, increases the working environment pressures for the Environmental Officers and their ability to provide qualitative work (Myburgh, 2018).

The Environmental Officers seem to be ignorant of the prescriptions within section 4 of the PAJA that address administration injustices and mandate government processes (see literature review) to conduct public participation for environmental management projects. It therefore, provides administrators powers to influence the choice of participation by project leaders (King & Reddell, 2015). It is key for the DWS to have knowledge sharing platforms and capacity building initiatives which improve the knowledge of the Environmental Officers on processes and legislative requirements for effective participation. These will include the results from the Water Tribunal cases and court proceedings to improve the efficiency and confidence of the Environmental Officers in implementing the strategies for public participation. Public administrators, such as the DWS, need to evolve and realise their importance and accountability to the citizens which may be improved through shared value and frameworks developed jointly by stakeholders and administrators to address real time management issues (King et al,. 1998). Existing regulations and frameworks need to be reviewed to factor the experiences of the authorities, stakeholders and citizens to improve distributive justice. Social justice requires organizations and civil society to work together to design institutional social development (United Nations. Division For Social Policy, 2006).

5.3. The misrepresentation and interests of stakeholders during water resource management.

The third theme focuses on the exclusion of marginalized groups within the IWRM. The study found that the Environmental Officers felt that marginalized groups had lost interest in participating in water resource management projects as their concerns were disregarded during the decision-making process. Furthermore, the socio-economic status of some groups affects their potential to participate as their interest is mainly to establish whether the project would yield economic benefits and that water resources management practices mainly cater for resourceful individuals or organizations. The researcher anticipated that the Environmental Officers might not understand the impact of the exclusion and the authority to exercise to ensure public participation is well managed however this is further from the truth. The interviews proved that the Environmental Officers understand the mandate of the Department and importance of achieving social justice.

The Environmental Officers shared their dissatisfaction on the exclusion of civil groups and historically disadvantaged individuals during the public participation process which falsifies democratic rights of communities (Voss, 2014). As shown in the literature, misrepresentation and exclusion of some social groups during consultation increases inequality (Voss, 2014). Also, the mismanagement of the consultation processes can create mistrust and disappointment in the public view resulting in protests (Bréthaut, 2016). However, one should not dismiss that the mismanagement of the consultation processes might be attributed to limited resources or poor planning and execution of the process (King, Feltey & Susel, 1998) or the capacity of the stakeholders to understand the proposals. Iliteracy or the technical language for example, can act as a barrier for some of the social groups to participate in environmental management projects. It is key for the government to invest in policy formulation that considers the experience of the users in water resources management.

Public participation is meant to provide a platform for dialogue and interrogate proposed projects (Bréthaut, 2016). However, it is evident that the processes might

not cater for groups that lack scientific knowledge. As discussed above, public participation is an essential part of democracy and imperative for legitimacy (Akhmouch et al., 2018) and should be designed in such a way that it allows all stakeholders the opportunity to raise their concerns. The danger of the absence of civil society and historically disadvantaged individuals is that their interests and rights may be prejudiced by organized groups such as agricultural and industrial unions (Mackay, 2009). The Department should investigate strategies that would improve the participation of civil groups and historically disadvantaged individuals in environmental projects. There is a need for public participation policy developments to integrate those that are historically disadvantaged into water resource management. It might however, be key to conduct a study that would seek to understand how to integrate the current structures, cultures and organizations that represent these groups. One way this may be achieved is by integrating local government structures, which can improve the inclusion of communities and aid towards the decentralization of water resource management. Alternatively, consideration could be given to having an independent quality review regulatory institution, which can be established for the purpose of managing the public participation processes to meet dynamic environment activities and strengthen the role and coordination of the authorities (Nita, Fineran, & Rozylowicz, 2022).The IWRM stakeholders should have representatives from the water users from agricultural water users, water polluters such as the mining and industrial water users, water managers, policy developers, NGOs and the societal representatives however the representation of interests within these governing bodies are the main source of legitimacy (Lotz-Sisitka & Burt, 2006). As previously alluded, the imbalance of the representation of various actors within IWRM, creates power differentials in the decision-making and disintegrates the democratic goal to decentralize water resource management.

The study found that the socio-economic status of civil society is a contributor to the mismanagement of the participation processes and that there is a need to empower the public on environmental management and government systems. The DWS puts more emphasis on the economic opportunities than on environmental protection and social benefits. This process is understood as the cost benefit analysis

whereby regulatory decisions are reduced to the economic value, which results in water acting as an economic good with the sense that it benefits communities (Ackerman & Heinzerling, 2001). This impacts the efficiency of the public participation process as the regulator does not play a strategic role in ensuring equitable access of the resources and promoting the constitutional rights to accessing a safe environment for citizens. Procedural justice is a system which involves project managers presenting their project and authorities ensure that project outcomes are equitable access through regulatory tools while considering stakeholder concerns (Tyler & Smith, 1995). There is a need to capacitate and develop communities and historically disadvantaged individuals on the importance of participating into environmental decision-making. Furthermore, there is also a need to disassociate the physical presence of these groups as a sign of effective consultation (Boakye & Akpor, 2012).

There is declining trust in public institutions, which is directly linked to the failure of government to implement their transformational policies and to effect an active role by citizens in policy developments. The DWS has established water management institutions specifically the Catchment Management Agencies and Water User Associations for the purpose of decentralizing water resource management as well as the Water Tribunal to address grievances lodged against the DWS on its decisions. The difference between the Catchment Management Agency and Water User Associations is that the CMA accounts to all water users within its WMA, whereas the Associations only reports to its members (Burt et al., 2015). Procedural justice plays an important role on how people react to social policies (Tyler & Smith, 1995) and acts to “regulate self-interest and group value models”, which may disintegrate the democratic practices linked to social justice. (Neal, Lukasiewicz & Syme, 2014, p 4). Institutions should seek to strengthen the participation by civil society and NGOs. This may be improved if the Department and institutions translate information and disseminate with existing organizations which are responsible with literate, resourceful stakeholders such as local councillors, teachers and community leaders who have access to illiterate community members (Leonard, 2017).

In closing, the discussion suggests that there are various factors which affects the interests of various groups in partaking in water resource management initiatives. However, it is the role of government to regulate the power differentials in established social groups, sustain public value to resuscitate the interests of society and historically disadvantaged individuals into water resource management. Government should ensure that the public participation processes and projects which affect communities are communicated in such a manner which allows for one to confidently present their concerns.

5.4. The inability for water resource management governance structures and institutions to contribute towards social justice.

The fourth theme which was identified from the data is the existing water resource management governance structures.

The study found that the Catchment Management Forums are undemocratic structures which need to improve the representation of stakeholders in order to render these structures effective for public participation. However, according to the DWS these platforms are key consultative platforms. In analysing the EIA reports it became evident that the project leaders presented their projects at these Catchment Management Forums and also consulted various spheres of government such as the local government in their respective areas as well as the DWS, the DEA and the Department of Mineral Resources on its intentions. Project leaders also consulted organizations which might have an interest in water resource related activities within the water management area. One can therefore assume that the forums are considered key consultation platforms. Catchment Management Forums may be used for public participation, however, need to be revitalised to make them more democratic to acquire legitimacy.

Catchment Management Forums have been seen as non-legislated vehicles that decentralize water resource management to “act as a communication channel between catchment residents and local government, municipality and other institutions” and have been observed as “exhausted, toothless talk shops,

unrepresentative, undemocratic, haunts of the privileged, ignored by officials and a waste of time" initiatives (Munnik et al., 2016. p. iii). As mentioned above, consultation with established groups can deteriorate justice (Voss, 2014). The DWS needs to revitalize Catchment Management Forums to address issues of equity and representation of various social groups on these bodies. In addition, agenda items should be included, which will increase the interests of all stakeholders; communication strategies should be improved and social groups should receive skilled training to improve their understanding of the impact and processes related to environmental management. All this should be done without politicizing these platforms (Burt, du Toit & Munnik, 2015).

The study found that dissonance between the DEA and the DWS exists on their roles and responsibilities in managing the public participation processes. The EIAs evaluated though, portray that project managers conform to the prescriptions for procedural requirements as required by the EIA regulations for public participation such as publishing notices and providing stakeholders with information that would allow them to participate. The National Water Act 27 of 2014 discussed above, aims to align environmental regulatory requirements (King & Reddell, 2015) and redress the shortcomings on the management of public participation within the water use licence regulations. The One Environmental System, which is integral in streamlining regulatory and administrative processes between the Department and DEA (Musodza, 2018) however it seems there induct the Environmental Officers on the integration between these governmental departments.

As alluded to, the Water Tribunal is a NWA schedule 6 water management institution established mainly to address grievances by water users and stakeholders on decision by the DWS (Olivier & Olivier, 2014). The study found that the DWS processes for redressing grievances are not inclusive and do not cater for individuals or groups of people that lack resources. The Water Tribunal has a process for lodging appeals and applications within Chapter 15 and schedule 6 of the NWA which requires the applicant to submit written notices to the DWS or CMA in question and the original copy be served with its offices and in cases whereby there is a subpoena, the applicant

is required to pay for the witness fees, travel and subsistence costs. These requirements support the findings that the Water Tribunal is not an institution which may contribute to representing the needs of the financially advantaged individuals or groups. Baboolal-Frank (2019) indicated that the Water Tribunal operates in an informal manner as it does not possess enforcement powers. It therefore, relies on court orders to enforce regulations whereby it was created to resolve matters cost effectively, promote the rule of law and provide for individual representation with the aim to ensure justice. Public administrative processes need to provide value, should be premised on trust and refrain from representing the values of the elite or established groups.

There is value in ensuring that the DWS sustains public trust. It is the responsibility of civil society to enforce government to maintain public trust however within the water governance sector, civil society is not well organized nor informed (Mackay, 2009).

Chapter 6: Conclusion

This chapter concludes and touches on some of the elements from the study. It affirms the objectives of the study, the researchers' expectations, and the findings found within the study. This chapter concludes on the experiences of the Environmental Officers on the ability of the Department to achieve social justice through its public participation processes.

The purpose of this research was to understand the current strategies within the Department in managing public participation and the experiences of Environmental Officers of the ability for the Department to achieve social justice within the Upper Vaal WMA. This paper applied the Social Justice Framework, which provides information on systematic disadvantages and identifies inequalities, gaps in existing policies and provides a bridge between policy formulation and implementation (Tol, 2020). In doing so, it explores the ability of policies, projects or programmes to achieve equality and contribute towards social change.

In exploring the management of public participation in ensuring social justice, this study unpacked the concepts of public participation, IWRM, related applicable water resource management legislative frameworks and social justice. The literature review conducted interviews and assessed EIAs help understand the culture and behaviour of Environmental Officers in implementing the principles of IWRM. The study presented the data and the findings which highlighted that public participation is completed for legislative purposes, the Environmental Officers found it to be an exclusionary process and that the Department needs to review its legislations and institutional establishment to contribute towards social justice.

The Department has a mandate to ensure that its redistributive policies and water management institutions contribute towards social justice. Numerous challenges exist such as the result of racial and inequalities of the past (Movik et al.,2016), the demand for water as both a social and economic good (Fritsch, 2017) and deteriorating water quality status (Agarwal et al,. 2002). The study sought to gain an understanding of the manner in which public participation within the Upper Vaal

WMA is managed. It found that there are variances and gaps in the evaluation of effective public participation which may be a result of using different frameworks and metrics such as the objective and needs of the project, mechanisms used to ensure participation, expectations, performance standards, or purely legislative compliance (Sale, Stafford & Davis, 2006). The study found that the water management institutions are faced with a challenge of transforming the representation of stakeholders within water management resources decision-making processes while controlling, developing and protecting water resources as guided within its development strategies. The challenges and opportunities associated with IWRM are vast and requires the DWS to promote constitutional ideals that seek to promote ethical professional standards and encourage participation in policy development considering that government services are premised on courtesy, access and consultation, amongst others (Nzimakwe & Mpehle, 2012)

Initially, the researchers' expectations were that the patterns and experiences on the management of the public participation processes by the Department would be similar considering that they operate within a common, predetermined environment. It was expected that the participants would be mostly satisfied with the management and understand their legislative mandate. However, the study found that most of the participants were dissatisfied with the management process and that there are legislative gaps which affect the confidence of the authorities in managing the process.

In conclusion, the Department has created multiple institutions to aid the decentralization of water resources. It also has regulatory frameworks, which promotes democratic ideals. However, it still needs to improve its policies and strategies in managing the public participation processes to meet the dynamic environment and achieve social justice.

References

Agarwal, A., de los Angeles, M. S., Bhatia, R., Chéret, I., Davila-Poblete, S., Falkenmark, M., ... & Wright, A. (2000). *Integrated water resources management*. Stockholm: Global water partnership

Ackerman, F., & Heinzerling, L. (2001). Pricing the priceless: cost-benefit analysis of environmental protection. *U. Pa. L. Rev.*, *150*, 1553.

Akhmouch, A., Clavreul, D., & Glas, P. (2018). Introducing the OECD principles on water governance. *Water International*, *43*(1), 5-12.

Akinboade, O. A., Putuma Mokwena, M., & Kinfack, E. C. (2013). Understanding citizens' participation in service delivery protests in South Africa's Sedibeng district municipality. *International Journal of Social Economics*, *40*(5), 458-478.

Aregbeshola, M. T. (2009). *Public participation in environmental impact assessment: an effective tool for sustainable development a South African perspective (Gautrain)* (Doctoral dissertation).

Ashton, P., Turton, A., & Roux, D. (2006). *Exploring the government society and science interfaces in integrated water resource management in South Africa.* Retrieved 20 February 2022 from http://hdl.handle.net/10204/820

Barnes, M. (1999). Researching public participation. *Local government studies*, 25 (4), 60-75.

Basson, M. S., & Rossouw, J. D. (2003). Upper Vaal Water Management Area. Overview of Water Resources Availability and Utilization. Retrieved February 3, 2022 from https://www.dws.gov.za/Documents/Default.aspx

Bengtsson, M. (2016). How to plan and perform a qualitative study using content analysis. *NursingPlus Open*, 2, 8-14.

Bishop, P., & Davis, G. (2002). Mapping public participation in policy choices. *Australian journal of public administration*, *61*(1), 14-29.

Biswas, A. K. (2004). Integrated water resources management: a reassessment: a water forum contribution. *Water international*, *29*(2), 248-256.

Boakye, M. K., & Akpor, O. B. (2012). Community participation in water resources management in South Africa. *International Journal of Environmental Science and Development,* 3(6), 511.

Boakye, M. K., & Akpor, O. B. (2012). Stakeholders' participation in water management: A case study of the Msunduzi Catchment Management Forum of KwaZulu-Natal, South Africa. *Journal of Sustainable Development*, *5*(6), 104-112.

Baboolal-Frank, R. (2019). *A critical analysis of tribunals in South Africa to create a harmonised tribunal system* (Doctoral dissertation, University of Pretoria).

Bowen, G. A. (2009). Document Analysis as a Qualitative Research Method. *Qualitative Research Journal*, 9(2), 27–40. https://doi.org/10.3316/QRJ0902027

Bréthaut, C. (2016). River Management and Stakeholders' Participation: The case of the Rhone River, a fragmented institutional setting. *Environmental Policy and Governance*, *26*(4), 292-305.

Bridgman, P., & Davis, G. (2003). What use is a policy cycle? Plenty, if the aim is clear. *Australian Journal of Public Administration*, *62*(3), 98-102.

Bryson, J. M., Quick, K. S., Slotterback, C. S., & Crosby, B. C. (2013). Designing public participation processes. *Public administration review*, *73*(1), 23-34.

Burkholder, J. M., Tomasko, D. A., & Touchette, B. W. (2007). Seagrasses and eutrophication. *Journal of experimental marine biology and ecology*, *350*(1-2), 46-72.

Burt, J., du Toit, D., & Munnik, V. (2015). Catchment Management Forums.

Calvet, C., Napoléone, C., & Salles, J. M. (2015). The biodiversity offsetting dilemma: Between economic rationales and ecological dynamics. *Sustainability*, *7*(6), 7357-7378.

Chamberlain, L. (2014). Standing in the Water Tribunal: access to justice down the plughole?. *South African Journal on Human Rights*, *30*(3), 543-554.

Chan, Y. E., Krishnamurthy, R., Mann, J., & Sabherwal, R. (2022). Public Participation in Policy Making: Evidence from a Citizen Advisory Panel. *Public Performance & Management Review*, 1–38. https://0-doi-org.innopac.wits.ac.za/10.1080/15309576.2022.206239

Chetty, L. (2013). Innovative interpretive qualitative case study research method aligned with systems theory for physiotherapy and rehabilitation research: A review of the methodology. *African Journal of Physiotherapy and Rehabilitation Sciences*, 5(1-2), 40-44.

Chiluwe, Q. W., Ncube, B., Msimang, B., & Modiba, I. (2022). *Strengthening the knowledge base and capacity to support the transformation of Irrigation Boards to Water User Associations.*

Clarke, V., Braun, V., & Hayfield, N. (2015). Thematic analysis. *Qualitative psychology: A practical guide to research methods*, *3*, 222-248.

Cook, K. S., & Hegtvedt, K. A. (1983). Distributive justice, equity, and equality. *Annual review of sociology*, *9*(1), 217-241.

Creighton, J. L. (2005). *The public participation handbook: Making better decisions through citizen involvement*. San Francisco: Jossey Bass.

Cropanzano, R., Ambrose, M. L., Greenberg, J., & Cropanzano, R. (2001). Procedural and distributive justice are more similar than you think: A monistic perspective and a research agenda. *Advances in organizational justice*, *119*(151), 351-360.

Dar, S. A., & Shairgojri, A. A. (2022). Role of Women in Good Governance. *Journal of social science*, *3*(4), 648-655.

Department of Environmental Affairs. (2010). *Public Participation 2010, Integrated Environmental Management Guideline Series 7, Department of Environmental Affairs, Pretoria, South Africa.*

Department of Water and Sanitation. (2017). *Regulations regarding the procedural requirements for water use licence applications and appeals.* Retrieved August 17, 2021 from https://www.gov.za/sites/default/files/gcis_document/201703/40713rg10701gon267.pdf

Department of Water Affairs. (1997). *White Paper on a National Water Policy for South Africa*. Department of Water Affairs and Forestry.

Department of Water and Sanitation. (2014). *Business Case for the Establishment of the Vaal River CMA*. Retrieved August 21, 2021 from https://www.dws.gov.za/IO/Docs/CMA/CMA/Vaal%20River%20CMA%20Business%20Case.pdf

Dhanya, V., & Renoy, G. (2017). Water governance and public participation: what matters?.*Current Science,112*(4), 686.

Du Toit, D., & Pollard, S. (2008). Updating public participation in IWRM: A proposal for a focused and structured engagement with catchment management strategies. *Water Sa*, *34*(6), 707-713.

Economists, C. (2014). *A manual for cost-benefit analysis in South Africa with specific reference to water resource development* (Vol. 8). WRC Report.

Einsiedel, E. F. (2008). Public participation and dialogue. In *Handbook of public communication of science and technology* (pp. 187-198). Routledge.

Faysse, N., & Gumbo, J. (2004). *The transformation of irrigation boards into water user associations in South Africa: Case studies of the Umlaas, Komati, Lomati and Hereford Irrigation Boards. Volume 2* (Vol. 73). IWMI.

Feris, L. A. (2010). The role of good environmental governance in the sustainable development of South Africa. *Potchefstroom Electronic Law Journal/PotchefstroomseElektronieseRegsblad*, *13*(1), 72-99.

Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, C. S., & Walker, B. (2002). Resilience and sustainable development: building adaptive capacity in a world of transformations. *AMBIO: A journal of the human environment,* 31(5), 437-440.

Fraser, N. (2000). Rethinking recognition. New left review, 3, 107.

Freie Universität Berlin. (2016). *History of IWRM*. History of IWRM. Integrated Water Resource Management - from traditional knowledge to modern techniques. Retrieved February 3, 2023, from https://www.geo.fu-berlin.de/en/v/iwrm/Introduction/History-of-IWRM/index.html

Fritsch, O. (2017). Integrated and adaptive water resources management: exploring public participation in the UK. *Regional Environmental Change*, *17*(7), 1933-1944.

Fung, A. (2006). Varieties of participation in complex governance. *Public administration review*, *66*, 66-75.

Gibbs, G. R. (2007). Thematic coding and categorizing. *Analyzing qualitative data*, *703*, 38-56.

Glucker, A. N., Driessen, P. P., Kolhoff, A., & Runhaar, H. A. (2013). *Public participation in environmental impact assessment: why, who and how?.* Environmental impact assessment review, 43, 104-111.

Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The qualitative report*, *8*(4), 597-607.

Graue, C. (2015). Qualitative data analysis. *International Journal of Sales, Retailing & Marketing*, *4*(9), 5-14.

Griffin, G., Stoeltje, G., Geiselbrecht, T., Simek, C., Ettelman, B., & Metsker-Galarza, M. (2018). *Performance Measures for Public Participation Methods* (No. PRC 17-89 F). Texas A & M University. Transportation Policy Research Center.

Hamann, R. (2003). South African challenges to the theory and practice of public participation in environmental assessment. *South African Journal of Environmental Law and Policy*, *10*(1), 21-37.

Harris, J., Van Vliet, H. R., & MacKay, H. M. (1999). Water resource quality policy: the approach adopted by the Department of Water Affairs and Forestry under the Water Law principles. *Water science and technology*, *39*(10-11), 31-37.

Hilliard, V. G., & Kemp, N. D. (1999). Citizen participation indispensable to sustainable democratic governance and administration in South Africa. *International Review of Administrative Sciences*, *65*(3), 353-370.

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative health research*, *15*(9), 1277-1288.

Hukka, J. J., Castro, J. E., & Pietilä, P. E. (2010). Water, policy and governance. *Environment and History*, *16*(2), 235-251.

IAPP. (2020). *International Association of Public Participation.* Retrieved 14 August 2020, from http://iap2sa.org/wp-content/uploads/2020/07/IAP-006-brochure-southern-africa.pdf

International Association for Public Participation. (2007). *IAP2 spectrum of public participation.*Retrieved 24 February 2022 fromhttps://www.iap2.org/page/pillars

IAIA. Public participation. (2006). *International Best Practice Principles.* Special Publication Retrieved 11 August 2022 from http://www.iaia.org/publicdocuments/special-publications/SP4%20web.pdf

Jackman, R. W., & Miller, R. A. (1998). Social capital and politics. *Annual review of political science*, *1*(1), 47-73.

Jackson, B. (2005). The conceptual history of social justice. *Political Studies Review,* 3(3), 356-373.

Jeffery, N. (2009). Stakeholder engagement: A road map to meaningful engagement. *Doughty Centre, Cranfield School of Management*, *2*, 19-48.

Jegede, A. O., & Shikwambane, P. (2021). Water 'Apartheid' and the significance of human rights principles of affirmative action in South Africa. *Water*, *13*(8), 1104.

Jidskog, A. (2020). Participatory Management in Unequal Societies: The case of Integrated Water Resource Management in South Africa.

Karar, E., Mazibuko, G., Gyedu-Ababio, T., & Weston, D. (2011). Catchment management agencies: a case study of institutional reform in South Africa. *Transforming water management in South Africa: Designing and implementing a new policy framework*, 145-163.

Katusiime, J., & Schütt, B. (2020). Integrated water resources management approaches to improve water resources governance. *Water*, *12*(12), 3424.

King, C. S., Feltey, K. M., & Susel, B. O. N. (1998). The question of participation: Toward authentic public participation in public administration. *Public administration review*, 317-326.

King, P., & Reddell, C. (2015). Public participation and water use rights. *Potchefstroom Electronic Law Journal/PotchefstroomseElektronieseRegsblad*, *18*(4), 944-968.

Lai, J. Y., & Hamilton, A. (2020). For whom do NGOs speak? Accountability and legitimacy in pursuit of just environmental impact assessment. *Environmental Impact Assessment Review*, *82*, 106374

Lotz-Sisitka, H., & Burt, J. C. (2006). *A critical review of participatory practice in integrated water resource management*. Pretoria: Water Research Commission.

Lukasiewicz, A., & Baldwin, C. (2017). Voice, power, and history: ensuring social justice for all stakeholders in water decision-making. Local Environment, 22(9), 1042-1060.

Lukasiewicz, A., Bowmer, K., Syme, G. J., & Davidson, P. (2013). Assessing government intentions for Australian water reform using a social justice framework. *Society & Natural Resources,* 26(11), 1314-1329.

Luo, Y. (2007). The independent and interactive roles of procedural, distributive, and interactional justice in strategic alliances. *Academy of Management journal*, *50*(3), 644-664.

Mackay, H. (2003). Water policies and practices. *Towards a just South Africa: the political economy of natural resource wealth (ed. D. Reed & M. de Wit)*, 49-83.

Malzbender, D., Goldin, J., Turton, A., & Earle, A. (2005). Traditional water governance and South Africa's "National Water Act"–tension or cooperation. In *International workshop on 'African water laws: plural legislative frameworks for rural water management in Africa* (pp. 26-28).

Maphanga, T., Shale, K., Gqomfa, B., & Zungu, V. M. (2022). The state of public participation in the EIA process and its role in South Africa: a case of Xolobeni. *South African Geographical Journal*, 1-29.

Maphazi, N., Raga, K., Taylor, J. D., & Mayekiso, T. (2013). Public participation: a South African local government perspective.

Masindi, V., & Duncker, L. (2016). State of water and sanitation in South Africa. *CSIR Built Environment*.

Mei, S. L., Weng, C. N., & Ao, M. (2015). Stakeholders' Participation in Sustainable Water Resource Management, Lessons from Tsurumi River for Muda River Basin. *New Water Policy & Practice,* 2(1), 51-62.

Meissner, R., Stuart-Hill, S., & Nakhooda, Z. (2017). The establishment of catchment management agencies in South Africa with reference to the Flussgebietsgemeinschaft Elbe: some practical considerations. *Freshwater governance for the 21st Century*, 15-28.

Mehta, L., Alba, R., Bolding, A., Denby, K., Derman, B., Hove, T., ... & van Koppen, B. (2014). The politics of IWRM in Southern Africa. *International Journal of Water Resources Development*, *30*(3), 528-542.

Meran, G., Siehlow, M., von Hirschhausen, C., Meran, G., Siehlow, M., & von Hirschhausen, C. (2021). Integrated water resource management: Principles and applications. *The Economics of Water: Rules and Institutions*, 23-121.

Miller, D. (2001). Principles of social justice. *Harvard university Press*.

Mirumachi, N., & Van Wyk, E. (2010). Cooperation at different scales: challenges for local and international water resource governance in South Africa. *Geographical Journal*, *176*(1), 25-38.

Mitchell, B. (2005). Integrated water resource management, institutional arrangements, and land-use planning. *Environment and planning A,* 37(8), 1335-1352.

Mkhonza, A. Z. (2022). Strengthening the Recognition of Strategic Water Source Areas in Decisions on Water use Licences [Discussion of Endangered Wildlife Trust v Director-General, Department of Water and Sanitation (WT 03/17/MP)[2019] ZAWT 3 (22 May 2019). *Stellenbosch Law Review*, *33*(2), 321-335.

Molobela, I. P., & Sinha, P. (2011). Management of water resources in South Africa: A review. *African Journal of Environmental Science and Technology*, *5*(12), 993-1002.

Morrison-Saunders, A., & Bailey, J. (2000). Transparency in environment impact assessment decision-making: recent developments in Western Australia. *Impact Assessment and Project Appraisal*, *18*(4), 260-270.

Mostert, E. (2003). The challenge of public participation. *Water policy,* 5(2), 179-197.

Movik, S., Mehta, L., van Koppen, B., & Denby, K. (2016). Emergence, interpretations and translations of IWRM in South Africa. *Water Alternatives*, *9*(3), 456.

Munnik, R., Burt, J., Price, L., Barnes, G., Ashe, B., & Motloung, S. (2016). Principled, pragmatic revitalisation of Catchment Management Forums in South Africa. *Report of the research project: Catchment Management Forums: the evolving priority in effecting subsidiarity principles in water management. K*, *5*.

Muro, M., & Jeffrey, P. (2012). Time to Talk? How the structure of dialog processes shapes stakeholder learning in participatory water resources management. *Ecology and society, 17 (1).*

Murombo, T. (2008). Beyond Public Particpation: The disjuncture between South Africa\'s Environmental Impact Assessment (EIA) Law and Sustainable Development. *Potchefstroom Electronic Law Journal/Potchefstroomse Elektroniese Regsblad*, *11*(3), 1-31.

Musodza, W. J. T. (2018). *The One Environmental System: Did we get it right?* (Doctoral dissertation).

Myburgh, C. (2018). *Identification and critical analysis of the factors influencing procedural efficiency in water use licence applications* (Doctoral dissertation, North-West University).

National Water Act, Pub. L. No. 36 (1998). South Africa. Retrieved February 6, 2021 from https://www.gov.za/sites/default/files/gcis_document/201409/a36-98.pdf

Neal, M. J., Lukasiewicz, A., & Syme, G. J. (2014). Why justice matters in water governance: some ideas for a 'water justice framework'. *Water policy*, *16*(S2), 1-18.

Nita, A., Fineran, S., & Rozylowicz, L. (2022). Researchers' perspective on the main strengths and weaknesses of Environmental Impact Assessment (EIA) procedures. *Environmental Impact Assessment Review*, *92*, 106690.

Nzimakwe, T. I., & Mpehle, Z. (2012). Key factors in the successful implementation of Batho Pele principles. *Journal of Public Administration*, *47*(si-1), 279-290.

Odeny B, Davidson C (2022) Social justice now for an equitable tomorrow: Reflections from the Consortium of Universities for Global Health Conference 2022. *PLoS Med 19(4): e1003995. https://doi.org/10.1371/journal.pmed.1003995*

Olivier, N., & Olivier, N. (2014). Non-Performance of Constitutional Obligations and the Demise of the Water Tribunal-Access to Justice Denied. *JS Afr. L.*, 163.

United Nations. Division for Social Policy. (2006). *Social justice in an open world: The role of the United Nations*. United Nations Publications.

Paloniemi, R., Apostolopoulou, E., Cent, J., Bormpoudakis, D., Scott, A., Grodzińska-Jurczak, M., & Pantis, J. D. (2015). Public participation and

environmental justice in biodiversity governance in Finland, Greece, Poland and the UK. *Environmental Policy and Governance*, *25*(5), 330-342.

Pape, U. B. (2021). *A critical analysis of the evolution of public participation in environmental decision-making in the South African mining sector* (Doctoral dissertation, University of Pretoria).

Paul, N. (2015). *A Basic Interpretive Study of the Experiences of University Students Who Have Dropped or Failed an Online Course.* Retrieved 24 February 2022 from https://digitalcommons.fiu.edu/cgi/viewcontent.cgi?article=2998&context=etd

Powers, M., and Faden, R. (2006). Social Justice: The Moral Foundations of Public Health and Health Policy. *New York: Oxford University Press.*

Powers, M., and Faden, R. (2019). Structural Injustice: Power, Advantage, and Human Rights. *New York: Oxford University Press*.

Powers, M. C., & Freedman, D. A. (2012). Applying a Social Justice Framework to Photovoice Research on Environmental Issues. *Critical Social Work,* 13(2).

Quick, K. S., & Bryson, J. M. (2016). Public participation. In Handbook on theories of governance. *Edward Elgar Publishing.*

Rai, N., & Thapa, B. (2015). A study on purposive sampling method in research. *Kathmandu: Kathmandu School of Law*, *5*.

Razzaque, J. (2009). *Public participation in water governance* (pp. 353-371). Springer Netherlands.

Razzaque, J., & Kleingeld, E. S. (2014). Integrated Water Resource Management, Public Participation and the 'Rainbow Nation', *African Journal of Legal Studies*, 6(2-3), 213-247. doi: https://doi.org/10.1163/17087384-12342026

Rogers, K.,* Roux, D.** & Biggs, H. (2000). Challenges for catchment management agencies: lessons from bureaucracies, business and resource management. *Water Sa*, *26*(4), 505-512.

Rowe, G., & Frewer, L. J. (2000). Public participation methods: A framework for evaluation. *Science, technology, & human values*, *25*(1), 3-29.

Ruggiano, N., & Perry, T. E. (2019). Conducting secondary analysis of qualitative data: Should we, can we, and how?.*Qualitative Social Work,* 18(1), 81-97.

Rutberg, S., & Bouikidis, C. D. (2018). Focusing on the fundamentals: A simplistic differentiation between qualitative and quantitative research. *Nephrology Nursing Journal*, *45*(2), 209-213.

Sale, D., Stafford, S., & Davis, S. (2006). Measuring the success of public involvement. *Participation 4 Quarterly*, 12-15.

Saravanan, V. S., McDonald, G. T., & Mollinga, P. P. (2009). Critical review of integrated water resources management: moving beyond polarised discourse. In *Natural Resources Forum* (Vol. 33, No. 1, pp. 76-86). Oxford, UK: Blackwell Publishing Ltd.

Schreiner, B., & Van Koppen, B. (2002). Catchment management agencies for poverty eradication in South Africa. *Physics and Chemistry of the Earth, Parts A/B/C*, *27*(11-22), 969-976.

Schreiner, B., & van Koppen, B. (2003). Policy and law for addressing poverty, race and gender in the water sector: the case of South Africa. *Water Policy*, *5*(5-6), 489-501.

Scott, S., 2002. UPPER VAAL WATER MANAGEMENT AREA WATER RESOURCES SITUATION ASSESSMENT. [online] Dws.gov.za. Available at: <https://www.dws.gov.za/Documents/Other/WMA/Upper%20Vaal%20WMA.pdf> [Accessed 26 June 2021].

Sebola, M. P. (2017). Communication in the South African public participation process-the effectiveness of communication tools. *African Journal of Public Affairs*, *9*(6), 25-35.

Shepherd, A., & Bowler, C. (1997). Beyond the requirements: improving public participation in EIA. *Journal of Environmental Planning and management,* 40(6), 725-738.

Shufutinsky, A., Calvin, J., Shufutinsky, B., Spigel, R., Kravitz, C., Burrell, D. N., ... & Gates, Z. (2022). Dissecting Meaning, Scope, and Roles of Social Justice and Social Action. *Organization Development Journal*, *40*(1).

Sørensen, H. T., Sabroe, S., & Olsen, J. (1996). A framework for evaluation of secondary data sources for epidemiological research. *International journal of epidemiology*, *25*(2), 435-442.

Stronks, K., Toebes, B., Hendriks, A., Ikram, U., & Venkatapuram, S. (2018). *Social justice and human rights as a framework for addressing social determinants of health: final report of the task group on equity, equality and human rights. Review of social determinants of health and the health divide in the WHO European Region* (No. WHO/EURO: 2018-4447-44210-62433). World Health Organization. Regional Office for Europe.

Susskind, L. (2013). Water and democracy: new roles for civil society in water governance. *International Journal of Water Resources Development*, *29*(4), 666-677.

Swatuk, L. A. (2010). The State and Water Resources Development through the Lens of History: A South African Case Study. *Water Alternatives*, *3*(3).

Syma Czapanskiy, K., & Manjoo, R. (2008). The right of public participation in the law-making process and the role of legislature in the promotion of this right. *Duke J. Comp. & Int'l L.*, *19*, 1.

Tenney, A., Kværner, J., & Gjerstad, K. I. (2006). Uncertainty in environmental impact assessment predictions: the need for better communication and more transparency. *Impact Assessment and Project Appraisal*, *24*(1), 45-56.

Teodosiu, C., Barjoveanu, G., & Vinke-de Kruijf, J. (2013). Public participation in water resources management in Romania: issues, expectations and actual involvement. *Environmental Engineering & Management Journal (EEMJ*), 12(5).

Thomas, J.-S., & Durham, B. (2003). Integrated Water Resource Management: looking at the whole picture. *Desalination,* 156(1-3), 21–28. https://doi.org/10.1016/S0011-9164(03)00320-5

Tol, W. (2020). Interpersonal violence and mental health: A social justice framework to advance research and practice. *Global Mental Health*, 7, E10. doi:10.1017/gmh.2020.4

Tyler, T. R., & Smith, H. J. (1995). Social justice and social movements.

Van der Heijden, J., & Ten Heuvelhof, E. (2012). The mechanics of virtue: lessons on public participation from implementing the Water Framework Directive in the Netherlands. *Environmental Policy and Governance*, *22*(3), 177-188.

Voss, H. (2014). Environmental public participation in the UK. *The International Journal of Social Quality*, *4*(1), 26-40.

Warburton, D., Wilson, R., & Rainbow, E. (2007). Making a difference: A guide to evaluating public participation in central government. *London: Involve*.

Wehn, U., Collins, K., Anema, K., Basco-Carrera, L., & Lerebours, A. (2018). Stakeholder engagement in water governance as social learning: lessons from practice. *Water International*, *43*(1), 34-59.

Wesselink, A., Paavola, J., Fritsch, O., & Renn, O. (2011). Rationales for public participation in environmental policy and governance: practitioners' perspectives. *Environment and Planning A*, *43*(11), 2688-2704.

Wills, A., Tshangela, M., Bohler-Muller, N., Datta, A., Funke, N., Godfrey, L., Matomela, B., Pienaar, G., Pophiwa, N., Shaxson, L., Strydom, W. & Yu, K. (2016). Evidence and policy in South Africa's Department of Environmental Affairs.

World Commission on Dams. (2000). *Dams and development: A new framework for decision-making: The report of the world commission on dams*. *Earthscan.*

Vivier, E., Seabe, D., Wentzel, M., & Sanchez, D. (2015). From information to engagement: exploring communication platforms for the government-citizen interface in South Africa: informatics for development. *The African Journal of Information and Communication*, *2015*(15), 81-92.