Water Issues in Ethical Perspective: A case study in the Philippi Horticultural Area (PHA)

Report to the
Water Research Commission

by

Dr Leanne Seeliger
Stellenbosch University Water Institute

WRC Report No. 2852/1/20
ISBN 978-0-6392-0180-1

August 2020

WATER
RESEARCH
COMMISSION

Obtainable from
Water Research Commission
Private Bag X03
GEZINA, 0031

orders@wrc.org.za or download from www.wrc.org.za

EXECUTIVE SUMMARY

BACKGROUND

Governments globally have come to the realisation that they cannot manage the earth's dwindling water supplies on their own. The management of water resources by a single authority is being replaced by the multi-stakeholder governance of water resources. This shift entails not only a greater number of role-players with differing priorities participating in decision-making but also a multi-disciplinary approach to problem-solving. Moreover, as water becomes scarcer in places like Southern Africa, there is an increasing number of competing uses for water that needs to be considered and prioritised. In South Africa, water legislation and policy are well researched to keep up with global trends. However, communities, business and government officials struggle to interpret these documents for local contexts, where there is an increasing complexity of competing claims on a very scarce resource.

This project sought to demonstrate how an ethics research methodology can assist diverse stakeholders with differing agendas and disciplines who are struggling with contested water governance issues to better identify common values and recognise differences in their local context to achieve improved management of water resources. The methodology is both "top down" research with a value analysis of the legislation and policy, as well as "bottom up" research with a thorough interrogation of stakeholder values. It attempts to bridge the gap between legislation and community engagement that plagues the water sector in South Africa.

The chosen case study, the Philippi Horticultural Area (PHA) in Cape Town, is a test case in complexity with regards to water governance. It has been an area of contestation for several decades between different government departments and stakeholders on several issues. The farming area produces a significant proportion of Cape Town's fresh produce and gives work to thousands of farm workers. However, it is surrounded by informal settlements. Environmental activists fear an increase in large scale urban development will threaten the farming potential of the area and damage the Cape Flats Aquifer (CFA). Until recently, it could be argued that water has remained a background issue in the PHA. However, following recent droughts, the CFA has been identified as one of the key sources for augmenting Cape Town's domestic water supply, resulting in a reprioritisation of water in the already contested agricultural landscape.

AIMS

The following were the aims of the project:

1) To demonstrate the usefulness of an ethics research methodology for unpacking contested water governance issues.
2) To provide the national, provincial and local government as well as community members, farmers and developers in the Philippi Horticultural Area with an awareness of the benefits of ethical analysis for developing new ways of thinking about just, equitable and efficient water governance.
3) To provide the Water Research Commission with insights into how ethical analysis can assist with improving the implementation of just, efficient and equitable water governance in South Africa.

METHODOLOGY

The ethics methodology entailed:

- A value analysis of the existing legislation and policies that had bearing on the case study

- Interviews using a questionnaire that included open-ended questions, factual questions and ethical questions
- Workshop 1 where the following tasks were completed:
  1) Responses of the stakeholder interviews were anonymously shared to all stakeholders
  2) Stakeholders were asked to jointly formulate answers to key questions around problem identification, causes, solutions and challenges
- Workshop 2 where the following tasks were completed:
  1) Responses of the first joint workshop were revisited with convergences and divergences of problem identification, causes and solutions.
  2) Stakeholders were asked to formulate the core values that represent their joint problem identification and solutions
- Workshop 3 where the following tasks were completed:
  1) A set of tangible indicators were drawn up to trace the joint values that were identified in Workshop 2
- A second set of interviews with a questionnaire where the same open-ended questions and factual questions were re-asked to assess if there had been a change in values and perceptions of stakeholders

Stakeholders were also asked to evaluate for themselves how the research affected or influenced them.

FINDINGS

- National government legislation and strategies like the National Water Act and National Water Resource Strategy 2 mention core principles but these principles sit uncomfortably with no guiding principles given as to how to resolve tensions between them in local contexts.

- This lack of a guided ethical process makes it difficult to resolve water issues in contested water governance areas like the PHA. This is because context matters, and national principles considered in isolation from their local context lack moral application.

- Similarly, at a local authority level, water management programmes like the Cape Town New Water Programme have significant implications for water ethics in the Philippi Horticultural Area because it prioritises domestic water use and therefore potentially threatens the availability of water for agricultural use. However, like national policy and legislation, there is no process to assist authorities working in communities with how to work out these priorities in practice.

- The community workshops showed that in the past, people living in the PHA have had very little opportunity to hear other stakeholders' views without negative judgment or historical prejudice. However, they found (through the questionnaire and workshops) they, when they had the opportunity to express their individual values and concerns and hear those of others, they discovered more convergence than divergence of opinion among themselves over time.

- The convergence of opinion that was facilitated by the questionnaires and workshops led to a desire for increased co-operation among stakeholders and for joint action. It also resulted in the need for regular consultation both among community members as well as between government departments and the community.

- The focus on individual and common values in the ethics methodology lead to a deeper understanding of the problems in the PHA and a better sense of the potential agency of stakeholders as a group to bring about change in water governance related issues.

DISCUSSION

The research demonstrated how an ethics research methodology:

- Unmasks the gap between what is expressed in legislation and policy, and what is understood and practiced by communities/government departments on the ground and creates a potential process to assist in bridging this gap.
- Exposes the lack of social cohesion and understanding between stakeholders and creates a process for the potential creation of social cohesion and understanding.
- Illustrated the lack of trust between governments and communities and creates a potential platform for more meaningful engagement that could rebuild a community's confidence in government if it is included in a meaningful way in government engagement processes.
- Has the potential to create environmental awareness and scientific understanding if it is linked to a trans-disciplinary research process that involves social scientists and environmental practitioners.
- Has the potential to improve the social impact of research by developing a method of tracking the progress of peoples' values by linking them to tangible indicators.
- Can deepen the impact of participatory action research methodologies and promote adaptive collaborative governance.

GENERAL

The aims of the research process were all achieved. The usefulness of an ethics methodology was underscored by the community requesting the research team to assist with the formation of their first multi-stakeholder committee: the PHA Partnership Improvement Forum.

The national Department of Water and Sanitation as well as the City of Cape Town's Department of Water and Sanitation and the Western Cape Department of Agriculture have all recognised the value of the ethics research methodology and have requested the continued assistance of the researchers with regards to their work in the PHA.

The research provides the WRC with a successful process that can assist government and communities to prioritise, interpret and integrate the competing values of equity, sustainability and efficiency often employed in government legislation with their own set of localised values.

CONCLUSIONS

An ethics research methodology could:

- play a significant role in facilitating the societal shift from water government to water governance, where water is collaboratively managed by government, communities, business and non-governmental organisations.
- assist governments in improving their engagement with communities, business and non-governmental organisation in contested water governance contexts.
- assist in building capacity in communities to interpret government legislation and policy within different water governance contexts to both challenge and support government decisions that affect the water resources that are important to them.

- assist communities to build social cohesion around issues of water governance so that they can interact effectively with government and developers.
- assist the Water Research Commission and other research institutions in increasing the social impact of their water governance research.

RECOMMENDATIONS

It is recommended:

- Department of Water and Sanitation, the City of Cape Town and the Western Cape Departments of Environmental Affairs and Development Planning and the Department of Agriculture consider using an ethics research methodology in all their contested water governance hotspots that require public participation processes.
- That further legal research be done into how ethical analysis could be included as a core process in existing public participation processes that affect water resources.
- Water Research Commission consider developing a Water Governance Ethics Short Course in conjunction with Stellenbosch University that could be offered to officials in the Department of Human Settlements, Water and Sanitation as well as Catchment Management Agencies, Water Boards and community groups charged with managing water resources.

ACKNOWLEDGEMENTS

The project team wishes to thank the following people for their contributions to the project.

Reference Group	Affiliation
Mr J Dini	Water Research Commission
Prof G Ziervogel	University of Cape Town
Dr U Adams-Jack	Stellenbosch University
Dr WP de Clercq	Stellenbosch University Water Institute
Ms M Kunneke	Western Cape Provincial Government
Ms M Lintnaar-Strauss	Department of Human Settlements, Water and Sanitation
Dr G Haysom	University of Cape Town
Prof JP Hattingh	Stellenbosch University
Dr L Rabe	Stellenbosch University
Dr ON Odume	Rhodes University
Mr T Gorgens	Western Cape Provincial Government
Mr M Jackson	Stellenbosch University Water Institute
Ms C Haskins	City of Cape Town
Mr D Jacobs	Western Cape Department of Agriculture
Mr S Cozett	South African Faith Communities' Environmental Institute
Ms C Stone	Western Cape Provincial Government
Ms K Morris	Stellenbosch University Water Institute
Ms M de Witt	Stellenbosch University Water Institute

This page was intentionally left blank

CONTENTS

EXECUTIVE SUMMARY i

CONTENTS vii

LIST OF FIGURES ix

LIST OF TABLES ix

ACRONYMS & ABBREVIATIONS x

GLOSSARY x

CHAPTER 1: BACKGROUND 1

1.1 INTRODUCTION 1
1.1.1 Previous Work Undertaken 3
Philippi Horticultural Area: A City asset or potential development node? (Battersby-Lennard and Haysom, 2012) 3
The Indego Report: the Socio-Economic Agricultural Plan for the Philippi Horticultural Area (Harrison and Hoffman, 2018) 4
1.2 PROJECT AIMS 7
1.3 SCOPE AND LIMITATIONS 7

CHAPTER 2: THE METHODOLOGY 9

2.1 INTRODUCTION 9
2.2 THE ENVIRONMENTAL PRAGMATIST FOUNDATION OF THE ETHICS METHODOLOGY 10
2.3 THE STEPS IN AN ETHICS METHODOLOGY 11
2.3.1 A desktop description and evaluation of the current normative framework governing water issues in the Philippi Horticultural Area. 11
2.3.2 Questionnaire-based interviews with stakeholders from the PHA to understand their values around water and development in the PHA. 11
Open Ended Questions 12
Factual Questions 12
Value Questions 13
General Ethical Questions 13
2.3.3 Workshop One 13
2.3.4 Workshop Two 14
2.3.5 Workshop Three 14
2.3.6 The second set of interviews, with the second questionnaire 14

CHAPTER 3: FINDINGS 15

3.1 A DESKTOP DESCRIPTION AND EVALUATION OF THE CURRENT NORMATIVE FRAMEWORK GOVERNING WATER ISSUES IN THE PHILIPPI HORTICULTURAL AREA. 15
3.1.1 National Water Act of 1998 (NWA, 1998) and the Water Services Act of 1997 15
3.1.2 The National Water Resources Strategy 2 (Department of Water Affairs 2013) 18

3.1.3 Cape Town's New Water Programme 2018 (CTNWP, 2018) as adopted in the City of Cape Town Water Strategy 2019 ..... *19*
3.1.4 Cape Town's Municipal Spatial Development Framework (Cape Town MSDF, 2018) *20*
3.2 QUESTIONNAIRE-BASED INTERVIEWS WITH STAKEHOLDERS FROM THE PHA TO UNDERSTAND THEIR VALUES AROUND WATER AND DEVELOPMENT IN THE PHA. 22
3.3 THE FIRST WORKSHOP 25
3.4 THE SECOND WORKSHOP 28
Joint Perceived Causes *28*
3.4.1 Feedback from Participants in the Second Workshop *29*
3.4.2 Moving Towards Action in Workshop 2 ..... *31*
3.4.3 Joint Proposed Actions *31*
1. Immediate Action *31*
2. Proposed Actions of the Committee *31*
3. Medium Term Actions *31*
4. Longer Term Actions *31*
3.4.4 Divergences in the Second Workshop *32*
3.4.5 Convergences in the Second Workshop *32*
3.5 THE THIRD WORKSHOP 33
3.6 ADDITIONAL MEETINGS 34
The Formation of the PHA Partnership Improvement Forum (see Appendix D for Constitution of PHA Improvement Forum) *34*
3.7 THE SECOND QUESTIONNAIRE 36

CHAPTER 4: DISCUSSION 38

4.1 INTRODUCTION 38
4.2 UNMASKING THE GAP BETWEEN WATER POLICY/LEGISLATION, COMMUNITY EXPERIENCE AND GOVERNMENT INTERACTION 38
4.3 THE ROLE OF THE FACILITATOR IN AN ENVIRONMENTAL PRAGMATIST INSPIRED FACILITATION PROCESS 39
4.4 BUILDING SOCIAL COHESION AMONG WATER USERS 40
4.5 FACILITATING TRUST AND IMPROVED INTERACTION BETWEEN GOVERNMENT AND COMMUNITIES AND WITHIN GOVERNMENT 41
4.6 IMPROVING ENVIRONMENTAL AWARENESS IN THE PHA 42
4.7 ADDING VALUE TO WATER RESEARCH METHODOLOGIES 43

CHAPTER 5: CONCLUSIONS & rECOMMENDATIONS 45

5.1 CONCLUSIONS 45
5.2 RECOMMENDATIONS 45

REFERENCES 47

APPENDIX A: ETHICS QUESTIONNAIRE 1 49

APPENDIX B: ETHICS QUESTIONNAIRE 2 50

APPENDIX C: OPEN-ENDED INTERVIEW QUESTIONS 52

APPENDIX D: PHA IMPROVEMENT FORUM 53

LIST OF FIGURES

Figure 1-1: PHA Core and Buffer 5
Figure 1-2: Reduction of the PHA 6

LIST OF TABLES

Table 2-1: Workshop 1 Group Feedback 26
Table 2-2: Social, Environmental and Economic Indicators 33

CFA	Cape Flats Aquifer
CNA	Critical Natural Area
CoCT	City of Cape Town
CTNWP	Cape Town's New Water Plan
DEADP	Department of Economic and Development Planning
DHSWS	Department of Human Settlements, Water and Sanitation
EPWP	Extended Public Works Programme
IDP	Integrated Development Plan
IGA	Incremental Growth and Consolidation Areas
IRT	Integrated Rapid Transit
IWRM	Integrated Water Resource Management
KVLV	Kaapse Vlakte Landbou Vereniging (Cape Flats Agricultural Association)
MSDF	Municipal Spatial Development Framework
NWA	National Water Act
NWRS	National Water Resources Strategy Edition 2
NWS	New Water Strategy
OECD	The Organisation for Economic Co-operation and Development
PAR	Participatory Action Research
PHA	Philippi Horticultural Area
PRA	Participatory Rural Appraisal
SPLUMA	Spatial Planning and Land Use Management Act

GLOSSARY

Term A. Values

Values are what is important to an individual or a group. Values influence how an individual perceives what is wrong and right (Pediaa, 2016).

Term B. Principles

Principles are moral rules that assist individuals or groups in deciding what is wrong or right. They are influenced by the values of an individual or a group.

Term C. Ethics

Ethics are a set of moral principles that are used to inform a group or individuals' conduct in a context like water governance.

CHAPTER 1: BACKGROUND

1.1 INTRODUCTION

Water disputes are complex issues because they involve both an objective resource that can be technically managed as well as a subjective reality that is deeply influenced by the values of a community and the broader society in which it is embedded. The legal framework surrounding water governance in South Africa provides us with the current expression of the norms that are influencing the way in which water is managed. It is outlined in the National Water Act of 1998 and extensively elaborated on in the National Water Resource Strategy, second edition. However, despite the articulated principles in the legislation and the strategies, it is not obvious to local, provincial and national governments how to apply the principles embedded in the legislation.

What an ethical distribution or ethical use of water should be in a geographical context is a complex matter for numerous reasons. Water is not evenly distributed throughout South Africa, with some geographical areas experiencing greater rainfall than others. Different geographical areas have varied types of economic activity requiring differing amounts of water. Similarly, because of existing municipal infrastructure within some cities, some communities have better access to water than others. What is fair is also deeply subjective, influenced by the historical reality and lived experiences.

The Philippi Horticultural Area (PHA), located in Cape Town, has been area of contestation for several decades between different government departments and stakeholders. There is pressure in the area to increase housing and there is resistance to this from some local farmers. This follows from the fact that the area produces a significant proportion of Cape Town's fresh produce and gives work to thousands of farm workers. Activists also fear an increase in large scale residential and commercial development will threaten the volume and quality of water available for the farming potential of the PHA and damage the Cape Flats Aquifer (CFA).

Until recently, it could be argued that water has remained a background issue in the PHA. This is despite that it is situated on the CFA – a water source that covers an area in excess of 400 km2 and extends from False Bay in the south to Tygerberg Hills and Milnerton in the northeast and northwest (Hay et al., 2015). However, following recent droughts, the CFA has been identified as one of the key sources of groundwater for augmenting Cape Town's domestic water supply. The New Water Programme (NWP) (Water Outlook: 2018) as adopted in the Cape Town Water Strategy 2019 prioritises domestic water use and imposes restrictions on agricultural water use. While the Department of Water and Sanitation (DWS) has issued the City of Cape Town (CoCT) with water use licences to abstract groundwater from the CFA, they have done so on condition that CoCT recharges the aquifer. The recent prioritisation of domestic water use in the NWP has led to the reprioritization of other water uses in the PHA, including farming, industrial, commercial and cultural activities – leading to increasing tension in an already contested agricultural landscape.

Ethical analysis, as an analytical tool, is useful in assisting water governance practitioners to step back and analyse how different stakeholders, including government departments, different spheres of government, business and communities, distinguish right from wrong, good from bad and what is worthy of respect and what is not. A key feature of ethical deliberation is that it focuses on the values that inform and inspire legal frameworks, policy strategies and municipal development frameworks.

Values are defined as ‘what is important to people’ and forms the basis of ethical principles that society uses to guide its conduct. There is often a large disparity between the principles that are expressed in national and provincial legislation, and policy and the values of the stakeholders on the ground. Accordingly, one of the central tasks of ethical analysis is to identify and clarify the core values in water governance disputes, and to critically analyse these in terms of their points of departure, basic assumptions, implications, consequences and plausibility (Brown, 2010; Groenveldt and Schmidt, 2013).

One approach entails the use of case studies, working from the ground up, and focusing on areas of conflict and dispute around water issues by identifying, comparing and analysing the different value judgements and normative frameworks used by different stakeholders in the conflict. Another approach involves a value analysis of the current policy, national, provincial and local government legislation, as well as international practice surrounding water governance that has a bearing on a context. In both approaches, ethical analysis aims to identify the value consensus and/or the value disputes. In this research project we combine a broader value analysis of policy/legislation with a case study approach, in order to make explicit the values of the participants on the ground and to integrate that with overarching legislative and governance framework influencing that geographical area.

In doing this we trace both value convergences and value divergences between all parties within the Philippi Horticultural Area and assist the stakeholders to formulate principles to guide future action. This process is important for the sustainable development of the area because without water there can be no development – economic, agricultural, or otherwise.

Moreover, water disputes have the potential to drive conflict. It is for this reason that principles around water governance have remained key points of international discussion for decades, for example in the UN Mar del Plata Conference in 1977, the Dublin Principles and in Rio de Janeiro in 1992, the five World Water Forums of 1997, 2000, 2003 and 2006 and 2008, and the Millennium Development Goals of 2000 that aimed to reduce the population which cannot access safe drinking water by half by 2015 (Ramirez, Seeliger and Di Pietro, 2016). More recently, the Sustainable Development Goals (SDG`s) 6 for water and sanitation and 17 for partnership directly relate to the work on this project.

In South Africa, given our apartheid history, inequality remains entrenched in our water practices on the ground, despite noble attempts at policy levels to do away with it (Van Koppen and Schreiner, 2014). Integrated Water Resource Management (IWRM), the current management paradigm in water governance in South Africa, for example, is often still perceived by communities as technical and top down. It has not brought about the so-called ‘just transition’ that was expected. This is despite IWRM being centred on key principles such as equity, efficiency and sustainability. This research therefore has the potential to influence the application of IWRM principles in water management.

The main motivation of this research project is to demonstrate the power of an explicitly ethical approach to water in addressing contested water governance issues. The Philippi Horticultural Area represents a laboratory test-case for water governance in South Africa. The diversity of government role-players (national, provincial and local) with their different mandates set out by legislation; the differing opinions of different farmers on the issues at hand and the number of scientific studies that have been conducted by various academic institutions and disciplines over a long period of time, make it a rich, complex and contested case study.

The ethics methodology undertaken in the PHA created a "safe breathing space" that enabled participants in the PHA to work towards agreed action with regards to water governance in the area. The research is innovative in terms of water governance because it is the first time that an ethics methodology is explicitly being applied to an existing, current and on-going water governance dilemma in South Africa.

While a desktop analysis of the role of environmental ethics in socio-ecological systems and water management was completed by Odume and de Wet (2016) in a WRC study, this previous study did not attempt to resolve any existing conflict through the use of ethical analysis but instead reflected on case studies. This study takes the research findings of this previous study further by demonstrating the effectiveness of ethical analysis in creating spaces for understanding and resolution within an existing crisis. It goes beyond a desktop analysis and attempts to measure the impact of this analytical intervention within a contested terrain.

While much has been written on the failure of Integrated Water Resource Management in South Africa, little has been written on which alternative approaches could bring us closer to achieving better equity, efficiency and environmental sustainability with regards to water governance. The ethics methodology in this research project creates a non-prescriptive space for new forms of collaborative governance to emerge in South Africa.

1.1.1 Previous Work Undertaken

Philippi Horticultural Area: A City asset or potential development node? (Battersby-Lennard and Haysom, 2012)

The primary focus of the report was on the role of the PHA in the Cape Town food system. The report highlighted farming as the area's primary value, dating back to the mid 1800s. The research also found evidence of the PHA having a high cultural, social and ecological significance. The area is of critical heritage importance, with the research uncovering reports of recent discoveries of Khoi-San artefacts in the PHA. The report indicated viable and sustainable use of these ecological resources but called for the monitoring and management of water systems. The importance of the CFA and the relationship between this, the land, the city as a whole and climate change were found to be of critical importance, particularly in the context of the links between food production, food prices and climate-related resilience.

The research noted increases in production, new land being farmed and significant investments in infrastructure being made on the part of the farmers, by both the existing larger scale farmers and by the new emerging smallholder farmers. It found that the area produced 50 different horticultural crops with many farmers also active in livestock production. The farmers were actively selling direct to the major retailers, wholesalers and other sources such as restaurants and speciality stores. The research estimated that 100 000 tonnes of fresh produce was grown in the PHA annually. This included an estimated figure of over 2 000 tonnes of produce that were given free to farm workers in a year. The PHA was found to be playing a critical role in the broader food security within the settlements adjacent to the PHA.

The report described the PHA as an endogenous economic system – a system designed to be mutually supportive of many farm-based and off-farm economies. There were seedling suppliers, input suppliers such as fertiliser, infrastructure suppliers and suppliers such as compost producers; food chain interventions such as beneficiation and wholesalers, pack houses and transportation suppliers. The report counted 9 economic systems that added economic integrity to the area and that had linkages beyond the PHA. In respect of the broader economic system, it found that the PHA allowed a measure of control at the local scale for food security, buffering communities from food scarcity and price shocks.

Challenges in the area included continuous theft of farming infrastructure and increasingly, large scale theft of produce. The challenge of theft was made worse by ineffective and selective police services in the area. These challenges were aggravated by the constant debate as to the future of the PHA, and as a result the future of the farms and all support operations, the report said. The research report made a number of recommendations including: the recommendation that the urban edge needed to be clearly defined and the PHA secured as an

agricultural area and that one structure should be given the full responsibility for the PHA and an inter-governmental and inter-disciplinary task team needed to be established, with full decision making mandate, to support and coordinate activities within the PHA. Moreover, the area is described as a good site to address land reform in agriculture by making space for emerging farmers.

This research, completed five years before the severest drought in a 100 years hit the City of Cape Town, demonstrates how red flags about the need to conserve the ecological infrastructure in the PHA were already being waved. The report's recognition of the need for monitoring and management of water systems demonstrates this. Moreover, the identification of the area as a useful site for addressing agricultural land reform showed a sensitivity to the value of equity in water access and distribution in the area. Most importantly though, the report vividly depicts how water ethics issues in the PHA are especially complex. This is because they are linked to precarious agricultural livelihoods that are steeped in local settler history, and in an area that provides fresh produce, not only for consumers in the greater Cape Town area but also to indigent households within the PHA who are dependent on local agriculture both for jobs and food security.

The Indego Report: the Socio-Economic Agricultural Plan for the Philippi Horticultural Area (Harrison and Hoffman, 2018)

The study was initiated in response to growing stakeholder concern about the lack of policy certainty regarding the protective status of the PHA. Its focus was broader than the previous research study in that it was required to review the significance of the PHA in terms of agricultural production, the natural environment and its broader socio-economic role and contribution. The study was located within the context of the negative impact of climate change and severe drought on continued agricultural production within the Western Cape.

The study identified that the remaining "core" of the PHA (See Figure 1.1 below for visual representation of the core area of the PHA) constituted about 1 884 hectares of agricultural land within the Cape Flats District of the City of Cape Town (CoCT). The "greater" PHA area comprising 3168.65ha included a broad range of both formal and informal land uses, including residential and industry, creating so-called "buffer areas" around the core. It found nine informal settlements within the "greater" PHA area, with only one being located within the "core". It noted that PHA was not considered suitable for low income housing because of the high water table.

Much of the findings of the Indego report, completed six years after the Battersby-Lennard and Haysom report, are similar. It confirms that the greater PHA is unique and should be retained for horticulture. It found the PHA to continue to be actively farmed with at least 89% of the "core" land under production. Thirty horticultural products are being produced with carrots, lettuce, cabbage, spinach and cauliflower being the top 5 crops. There are about 30 active farmers in the PHA, of which 5 are classified as large commercial.

The report states that PHA producers are firmly embedded in the Western Cape agricultural value chain through the sourcing of inputs, logistics, services and markets. For every R1 million spent in the vegetable industry 4.65 direct jobs are created and 46.5 indirect jobs translating into the PHA contributing about 3000 direct jobs and 30 000 indirect jobs to the regional economy. It estimated that the PHA further contributes about R484 million direct and R938 million indirect turnover into the regional economy. It was predicted that this could grow further through more land being made available for farming and the adoption of new technologies.

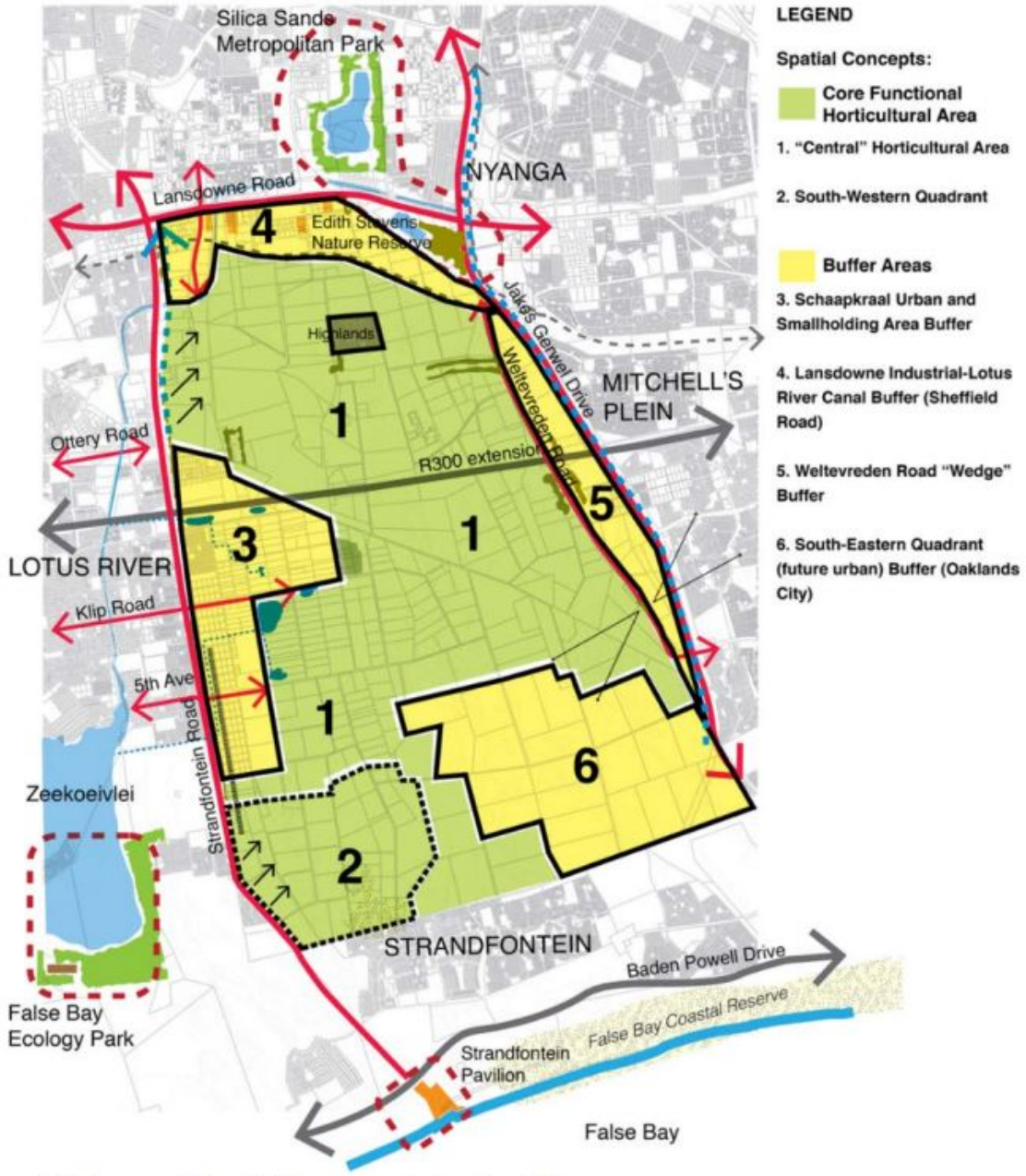

Figure 50 Proposed Spatial Components for the PHA

Figure 1-1: PHA Core and Buffer (Harrison and Hoffman, 2018)

The report recognized that the PHA has been eroded (see Figure 1.2 for the visual representation of the reduction of the PHA agricultural area)by: the inadequate policing of zoning scheme regulations; the precedent-setting housing development applications in the southern quadrants of the PHA and the amendments to the City of Cape Town's Municipal Spatial Development Framework (MSDF) and urban edge in 2011 and 2014. The report states

that these above-mentioned pressures have placed the PHA under severe stress. Much like the previous research report, the Indego report continues to find the land under pressure from illegal dumping, conflicting land uses and safety and security concerns.

Figure 1-2: Reduction of the PHA (Harrison and Hoffman, 2018)

The PHA's cultural and historic heritage is recognised in the Indego report by the discovery of the prehistoric Cape Flats Skull; findings of San and Khoi artefacts; the designation of the land for production by the Colonial government; the transformation of the PHA into the "vegetable pantry" of Cape Town by German settlers; and the establishment of a number of Cape Flats settlements through the passing of the Group Areas Act and the District 6 forced removals.

With greater emphasis, the second study highlights the lack of proactive management of the underlying Cape Flats Aquifer and reiterates that the PHA remains a natural recharge area for the Aquifer. It underlines the importance of undertaking proactive management to increase the climate change resilience and food security of the City of Cape Town.

In line with the earlier report, the Indego report calls for the adoption of a collaborative approach to governance of the area, using what it calls a “whole of society” approach, driven through the coordination of multi-stakeholder and inter-governmental engagement. The core public sector partners identified in the report to achieve this are the City of Cape Town, (represented by a range of departments responsible for spatial planning and land use management; water and sanitation; urban development (human settlements and public transport); economic development; community safety and area-based management); the Western Cape Government (especially the Office of the Premier, Department of Agriculture, Community Safety, Human Settlements and Economic Development and Tourism) and the National government (especially departments responsible for water and sanitation, land reform, agriculture, disaster management and minerals) as well as national and provincial parastatals such as SANRAL, ACSA, SAPS, WESGRO and Heritage Western Cape and lastly, the private sector and civil society in terms of supplier development programmes; BBBEE; knowledge and skills sharing; job creation; technology transfer; promotion of sustainable agricultural practices; branding and marketing; regulation; corporate social investment (Harrison and Hoffman, 2018).

1.2 PROJECT AIMS

The following are the aims of the research project:

1. The main aim of this project is to demonstrate the usefulness of an ethics methodology for unpacking contested water governance issues.
2. A second aim is provide the stakeholders (national, provincial and local government as well as community members, farmers and developers) in water governance in the PHA with an awareness of the benefits of ethical analysis for developing new ways of thinking about just, equitable and efficient water governance.
3. A third aim is to provide the Water Research Commission with insights into how ethical analysis can assist with improving the implementation of just, efficient and equitable water governance in South Africa.

1.3 SCOPE AND LIMITATIONS

The research began in April 2018 with a desktop analysis of the existing legislative and normative frameworks that inform activities in the PHA. This stage of the research sketches the background values that create the context in which the stakeholder’s values will be interpreted. The stakeholder interviews took place from May 2018 to September 2018, with final questionnaires completed in 2019. Several further additional workshops were held in 2019 because stakeholders wanted the research team to continue with the process of developing a Forum for themselves despite having completed the research exercise.

This ethics research was preceded by the Indego Report (Harrison and Hoffman, 2018), the socio-economic analysis of the PHA area, discussed above. The Indego Report delved deeply in the intergovernmental decision-making structures surrounding the PHA, the state of the Cape Flats Aquifer, the economic viability of farming in the PHA as well as a historical analysis of all the various development proposals and objections to them, creating an empirical context for the ethical enquiry to embed itself in.

The material gathered by the Indego Report differed vastly from the kind of information that this ethics research gathered. While many of the same stakeholders were interviewed for both reports, the ethics research was less interested in the legal mandates of departments or socio-economic statistics that were available. It sought instead to unpack the values underlying the differing interpretations of what the core problems and solutions are with

regards to the management of the PHA. This choice was deliberate because ethical deliberation about what matters to stakeholders often gets lost in socio-economic studies that focus more on historical socio-economic conditions and legal mandates of various departments than they do about what matters to people and their vision for their future.

Another limitation of this ethics research was that it did not attempt to provide a definite “truth” about how water management should take place in the PHA. Instead, it focused on problematizing the truth and encouraging stakeholders to articulate their own understanding of the problems in the PHA, the potential solutions and the challenges to achieving those solutions. For some stakeholders during the research this lack of direction might have proved frustrating. While the research questions were investigative, they were not designed to be conclusive but rather as inclusive as possible, with the aim of facilitating dialogue among stakeholders.

CHAPTER 2: THE METHODOLOGY

2.1 INTRODUCTION

In this research project we demonstrate the value of an ethics methodology for unpacking contested water governance issues. This is an unusual focus with regards to ethics in research, because the purpose of ethics in research is most often to protect respondents from harm and safeguard their dignity and anonymity (Naidoo, 2019). The kind of ethics methodology we seek to demonstrate, however, is not a procedural ethics designed to protect subjects of ethics research or an ethics research aimed at imposing a set of values on subjects. It instead focuses on eliciting the values already held by the research subjects themselves on an issue, in this case: water in the PHA. It seeks to situate these place-based values that emerge among stakeholders within the broader legislative frameworks governing water resources in an area.

It is argued that there is a need to do this when there are long-standing disputes or unresolved governance issues in an area. This is because persistent, unresolved conflict can be a sign of a breakdown in trust between stakeholders and/ or a lack of awareness of shared values and/or a lack of shared values. In deep-seated conflict like this more empirical research does not always resolve the conflict. The scientists involved in both social and biophysical research run the risk of being themselves drawn into camps to produce reports that support the viewpoints of those who support the development of the PHA and those who propose it be protected solely for agriculture.

In the case of the PHA, a wide range of disputes persist, some of which are water governance issues. The Battersby-Lennard and Haysom study (2012) and the Indego Report (Harrison and Hoffman, 2018) shared largely the same findings and both concluded that there was a need for a more collaborative approach to governance in the area. However, while the Indego Report was able to set in motion an Intergovernmental Forum to achieve this, neither research reports managed to facilitate the collaboration they said was required. The Indego Report described a “whole of society” approach involving both government and civil society that was needed, but to date this not been achieved because of lack of social cohesion in the PHA community and the slow progress of government departments to develop an integrated approach to management.

Water issues in the PHA are embedded in concerns about food security, viable farming opportunities, job creation and housing. People’s experiences of an equitable distribution of water are related to how it is linked to the provision of these factors both in the present and historically. Their knowledge of national legislation or municipal policy with regards to water governance, is often partial and in some cases, non-existent. This report argues that in order to understand water issues in ethical perspective in any given context, an investigation into stakeholders’ perceptions and values is necessary and critical. A top-down interpretation of national and even local government legislation, without an understanding of how people perceive this is, is both insufficient and unlikely to lead to ethical water governance over the long term.

2.2 THE ENVIRONMENTAL PRAGMATIST FOUNDATION OF THE ETHICS METHODOLOGY

Persistently contested environmental issues are often indicative of deep-seated value clashes between stakeholders. In the case of the Philippi Horticultural Area, farmers, activists, government departments and developers have been clashing for decades over what kind of activities should be permitted in the area. Some would like to keep the area strictly for organic farming, others favour mainstream commercial farming for big retailers and others would like to see it developed for other land uses like sand-mining and housing.

There is a philosophical approach to environmental issues that can assist with resolving deep-seated values clashes. It is called environmental pragmatism. Environmental pragmatism is a form of moral pluralism. Moral pluralism is the understanding that there can be many different and sometimes competing “truths” and ways of valuing a context or situation, and that humanly interpreted “truth” or issues of value are time bound, affected by what scale you assess them and essentially constructed by communities living at a particular time and place (Norton, 2005).

Bryan Norton, an American environmental pragmatist who worked with the Environmental Protection Agency in the USA, developed guidelines (Norton, 2005) that relate specifically to the process of truth making in contested environmental issues. These guidelines centre around the claims that truth is a process, that values are dependent on the interaction between human beings and their environment and that people with different and competing values can agree on joint action, despite their persistent differences.

Norton took the guidelines of adaptive management: localism, multi-scalar analysis and experimentalism that are used by conservationists to learn from their interaction with the natural world and applied these to value formation and consensus building in environmental contestations.

By localism, Norton emphasised the contextual nature of truth. All truth is generated by an interaction between human beings and their environment. Therefore, he argues that it makes sense to take local conditions seriously and not to impose general values on an area without interacting with the values of the stakeholders on the ground (Seeliger, 2009).

Secondly, he made the point that often values that appear to be clashing are just values that are lying on different scales of time. Economic values are often short term (between 0 and 5 years), social values are longer (between 5 and 10 years) whereas environmental values are longer term and are often 10 years and plus.

Thirdly, he emphasises that no values should be cast in stone but that they all should be subject to change and debate among stakeholders. He adopts an experimental approach to values and develops a process of tracking their progress through a system of tangible indicators, that are measured and changed by stakeholders over time.

The value of keeping the PHA agricultural, for example, could be measured by “Paved Surface Area” whereas open ground would be an indicator of amount of farmland. If the community wanted the area mostly to be agricultural land, they could set an indicator of 70% of open ground. The community could check how their agricultural value was being upheld by taking aerial photographs of the PHA to check that it was maintained.

In this research project, the researcher focused on the subject of “values” and “ethics” by deliberately asking people questions of value, rather than doing empirical studies on the state of the Cape Flats Aquifer or socio-economic studies of the agricultural potential of the PHA. This changed the nature of the research from one about finding the “truth” about the PHA to understanding what mattered to people who valued the PHA and why.

Norton's prioritisation of local values, was introduced by interviewing as comprehensive a group of stakeholders in the PHA as was practically possible. Informal settlement dwellers, farmers (organic, emergent and commercial), councillors, government officials (local, national and provincial), developers, activists and business interests. No one group was privileged above another in the workshops, so the values of experts on hydrology or economic consultants or commercial farmers were given the same status as emerging farmers and activists.

The concept of multi-scalar analysis emerged by itself in the different perspectives of the various stakeholders in the PHA. Informal settlement dwellers and the vegetable sellers who live from hand to mouth focused on the immediate values (0 to 1 year) of water, jobs, sanitation and food, while the farmers who were more focused on the medium term (1 to 5 years) concerns of crop rotation, longer term water quality and quantity. The hydrologists and heritage experts were more concerned about the longer-term impact (10 years plus) of activities in the PHA.

The concept of experimentalism was adopted in the research by moving from articulating individual values and then, through discussion, forming group values through discussion. These group values by the end of the third workshop were made tangible by the stakeholders developing core values (unity, sustainability and participation) and identifying indicators that they could use to track them.

2.3 THE STEPS IN AN ETHICS METHODOLOGY

The steps in the ethics methodology also reflect Norton's understanding of how values operate on multiple scales. We start with the overarching values as set out by government in legislation and policy that are intended to frame the local water governance context. We then move to understanding the interpretation of these national values as expressed in water governance legislation at a local level through a questionnaire and series of workshops with diverse local stakeholders. The experimental nature of Norton's value-based adaptive management is expressed through the stakeholders forming communal values and developing tangible indicators to track those over time.

2.3.1 A desktop description and evaluation of the current normative framework governing water issues in the Philippi Horticultural Area.

The aim of this desktop analysis was to make explicit the values that are implicit in the different legislative, policy and research documents that have bearing on the way in which water is valued in Philippi Horticultural Area before going into the field to interview stakeholders. This is in order to describe and gauge the gap between what is documented and what is experienced by water stakeholders on the ground. There is often a significant gap between what government legislation and policy expresses at a national and even local level, and what individual water users and stakeholders understand a just distribution or ethical use of water to be in the area itself.

2.3.2 Questionnaire-based interviews with stakeholders from the PHA to understand their values around water and development in the PHA.

The interviews were conducted using a questionnaire that was comprised of factual questions as well as value-based question. A total of 34 stakeholders were interviewed from the PHA to understand their values around water and development in the PHA. These included representatives from the farming community (small, large and emerging farmers), farm labourers, informal settlement residents, activists, politicians, non-governmental organisations, national, provincial and local government officials, small and large business interests, water experts

and consultants. There was an attempt to interview as broad a range of stakeholders as possible. Names and contact details were obtained from researchers who had previously researched the area as well as through a snowballing technique as they were given by the community representatives themselves. The opinions of all interviewees were sent back to them to confirm that they were properly recorded. The reason for doing this was to establish a relationship of trust between the participants and the research process. It was also to assist the participants in articulating their value positions on the PHA.

Ethics and values are often not explicitly articulated by people and they sometimes need help to express them. The difference between questions of value and questions of fact are also not always understood. It is for this reason that the questions were designed to be as non-threatening and simple as possible.

Participants were given an opportunity to answer open-ended questions. They were designed to act as general guidelines and were encouraged to participate freely. The main aim of these questions was to gain an understanding of what the core values of each participant are with regards to water governance in the Philippi Horticultural Area. They were not designed to be exhaustive but rather to give an indication of the overall perception of the participant with regards to the problems in the PHA.

The questionnaire included the following questions:

Open Ended Questions

1. What is the nature and depth of the water conflict/water governance stalemate in the Philippi Horticultural Area?
2. How did we arrive at this point?
3. What should we have instead of this conflict/stalemate? (the ideal position)
4. How should we move from the current state to the ideal position?

The second part of the questionnaire divided questions into three sections: factual questions, value questions and general ethical questions.

Factual Questions

1. Is there enough water in the Cape Flats Aquifer to allow farmers to farm sustainably?
2. Is the quality of water in the Cape Flats Aquifer of a high enough standard for farming?
3. Has the current drought affected water supply in the Cape Flats Aquifer?
4. Who is responsible for water management in your area?
5. What is Integrated Water Resource Management?
6. Do you apply an Integrated Water Resource Management approach to water use in the Philippi Horticultural Area?
7. What is the current dispute in the Philippi Horticultural Area about?

Value Questions

1. Why is water important to you?
2. What principles influence the way in which you manage water?
3. What principles do you think should govern the way water is managed by your community/government?
4. Is water being properly managed in the Philippi Horticultural Area? If yes, why? If not, why not?
5. If you were in charge, how would you manage it?
6. Is the current distribution of water in the Philippi Horticultural Area, fair and just? If yes, why? If not, why not/how would you manage it?

General Ethical Questions

1. What, in your view, is ethics?
2. What would an ethical way of managing water in the Philippi Horticultural Area look like?
3. Do you feel ethical principles are present in the current management of water in the area? If yes, why? If not, why not?
4. How should Integrated Water Resource Management be adapted to better reflect your core values with regards to water management.

2.3.3 Workshop One

The first workshop started with a presentation to the participants of the summarised and anonymised inputs of the interviews. The interviews were conducted with representatives from the farming community (small, large and emerging farmers), farm labourers, informal settlement residents, activists, politicians, non-governmental organisations, national, provincial and local government officials, small and large business interests, water experts and consultants. All respondents to the first questionnaire were asked to participate in the workshops.

Out of the 34 original interviewees, 25 attended workshop one in November 2018, 18 people attended workshop two in March 2019 and 16 people attend workshop 3 in May 2019. A further set of additional workshops took place between May and November 2019 to form the PHA Interim Forum.

So, a total of 16 participants stayed with the process that took place over a year. During these three workshops, stakeholders were given an opportunity to hear each other's views without interruption, or negative judgment or historical prejudice. The second half of the first workshop involved dividing the stakeholders in two groups and asking them to answer the open-ended questions again, as a group. The questions were reworded slightly to make them more accessible to stakeholders.

What is significant in this rewording is we no longer defined the question in terms of water governance but allowed the people to define what they saw as the problem.

They were:

1. What is the problem in the PHA?
2. What is the cause of the problem in the PHA?
3. What is the solution to the problems in the PHA?
4. How do we get there?

2.3.4 Workshop Two

Just before the second workshop, the participants were given a report that summarised the process discussed above. In the first part of the meeting, the findings for joint problem identification, joint perceived causes, and joint perceived solutions and ways of achieving these solutions were discussed. The joint core values shared by all stakeholders were also discussed.

In the second part of the workshop, the participants were asked to move from a focus on the perceived problems and causes in the PHA and move towards a new focus on joint outcomes and of ways of achieving these joint outcomes. The meeting was divided into two groups to find immediate, medium term and long-term actions that would express their joint values. These were then later combined into one set of joint actions, agreed on by both groups.

2.3.5 Workshop Three

The workshop focused on identifying a series of tangible indicators for the values identified at the previous workshop. The indicators needed stakeholders to measure the progress towards achieving the values that had been decided upon.

2.3.6 The second set of interviews, with the second questionnaire

A second set of interviews, using the factual questions that were used in the first questionnaire, were conducted with the 16 respondents out of the 34 respondents who filled out the first questionnaire and who had remained in the workshop process. Some filled it on May 13, 2019 at the beginning of the third workshop when the research process was supposed to end and others filled it in October/November 2019 when the actual research process ended. Some filled it in twice, but their last submissions were recorded because it was argued hindsight would provide more accurate responses.

The purpose of the second interviews on the first questionnaire was to evaluate the impact of the ethics process on improved water governance by asking the stakeholders some of the same factual questions again to see if they had altered their perspectives. Two additional questions were included to evaluate the process and its impact on their values.

The two key questions that were used to achieve this were:

1. Has your interaction with other viewpoints in this research changed the way in which you understand water management in the PHA?
2. Are you more positive or less positive about achieving improved water management in the Philippi Area?

CHAPTER 3: FINDINGS

3.1 A DESKTOP DESCRIPTION AND EVALUATION OF THE CURRENT NORMATIVE FRAMEWORK GOVERNING WATER ISSUES IN THE PHILIPPI HORTICULTURAL AREA.

3.1.1 National Water Act of 1998 (NWA, 1998) and the Water Services Act of 1997

The National Water Act of 1998 was welcomed by the international community as one of the world's most progressive pieces of legislation (Francis, 2005). It was designed to transform water management in South Africa, by abolishing the private ownership of water in South Africa and stating that water is owned by the people of South Africa, held in trust by the state.

It established a compulsory licensing system that had the potential, among other mechanisms, to redistribute water supply more equitably among the population (Francis, 2005). It also contributed to providing a framework for the South African Constitution's establishment of water as a human right. In the South African Constitution, everyone has a right to have their basic needs for water met. Water use entitlements replaced the old hybrid systems based on riparian rights. The Act required all present and potential users to apply for a license. Compulsory licensing ensures equal allocations of water especially in stressed catchments. All new potential users who exceeded the thresholds for Schedule 1 or General Authorisations had to apply for a licence. Existing Lawful Uses might be continued until DWS required the holder to apply for a licence. Compulsory licencing was not automatic. It was done in cases where there was no spare water available for allocation to new users.

The Act created a hierarchy of water uses with priority given to the Reserve that provides for basic human needs and for the minimum amount of water to be available for ecological functioning of the resources. This was followed by sufficient water for international agreements and inter-basin transfers that were in the national interest, for strategic water users and lastly to water distributed via authorisations such as licences for municipal uses, i.e. domestic supply of water to consumers and for economic uses such as mining, agriculture and industry (Van Koppen and Schreiner, 2014). Users wanting to use water that does not have too much of a significant impact on water resources are covered by general authorisations.

Through the Act, the licensing authority (currently the Department Water and Sanitation) in a specific catchment is compelled to allow for public comment on the proposed water allocation plans and give objectors a chance to appeal the authority's allocation (Francis, 2005). The proposed allocation plans will be in the catchment management plan and an appeal can be made against the decision of the Department on the awarding of an authorisation where the applicant or the public can appeal to the water tribunal (DWS, 2020).

The preamble to the National Water Act sets up the national government as the custodian of the nation's water resource and responsible for the equitable allocation of water. A grandfather clause in the National Water Act, however, allowed existing lawful users who had been exercising water use rights two years prior to the Act to continue to do so with the intention of eventually converting them into licences as well through the compulsory licencing mechanism (Movik, 2014).

Four key principles underpin the New Water Act: equitable access, decentralisation, efficiency and sustainability (Funke et al, 2007). As discussed above, equitable access is created by placing water in the public trust of the state and issuing it via licenses. Decentralisation is achieved through the recognition of 9 water management areas and the plan to create catchment management agencies that would manage these areas. The principle of efficiency is upheld through the issuing of licenses that could be appealed and secondly through the pricing of water. The ethics of charging money for water, though contentious, was allowed against the proviso that the first 25 litres per day are free (this is the basic human need referred to in the reserve). The principle of sustainability is upheld with the concept of the reserve. The reserve is the quantity of water that cannot be allocated to specific water users because it is necessary for people to meet their basic needs and for the environment to be sufficiently protected so that it can support social and economic development.

A value analysis of the National Water Act places it squarely in the field of enlightened anthropocentrism, with the central value in the Act being one of protecting the natural environment for the benefit of current and future generations. It sees water as a means of protecting and sustaining human life. The interests of other forms of life are not taken into consideration, except in so far as they support human interests. The NWA calls for “protecting aquatic and associated ecosystems and their biological diversity”, “reducing and preventing pollution” to protect human life. References to the ecological reserve cannot be interpreted as protecting the ecosystem for its own sake, and introducing ecosystem ethics, or alternative ways of understanding human relationships with water. Water is seen as a “resource” that is managed with only limited reference to any cultural, symbolic or religious significance. The Department of Water and Sanitation argues, however, that although it is not explicitly stated water is managed by the Department in such a way that important cultural or religious activities involving water can still take place. This is seen as part of the services that is provided to humans by water resources (DWS, 2020).

The Act’s rights-based approach to water does not disregard the idea of water as a commodity, as some rights-based approaches to water might. It acknowledges payment for water as one the strategies that could be used to achieve social equity by bringing in differentiated charges. The National Water Act is seen as a tool for authorities to ensure compliance with prescribed standards and water management practices, according to the ‘user pays’ and ‘polluter pays’ principles. Moreover, it focuses on encouraging a reduction in waste with the non-payment of water use charges attracting penalties, including the suspension of the authorisation to use water.

The equity and efficiency principles in the National Water Act are in tension with a move to allow the existing “large scale lawful water users” to continue to use water, with the view to later converting their rights into government issued water licences. One of the arguments behind this was that many existing users made significant investments to ensure the productive use of the water. Moreover, it was argued that irrigation provides food security for the country and contributes to the economy, while mining and industrial users provide employment opportunities. Another of the primary arguments was that government would not have the capacity to process all the applications if all existing lawful users were forced to apply for a licence as soon as the act came into effect. It was a way of ensuring a transition, but in effect proved to be anything but transitional because existing lawful users are still in place.

The National Water Act is criticised by some for making too much of this “desert by labour” principle (Movik, 2014). Critiques argue that the “existing large-scale lawful water users” might be productive but this does not mean they are efficient or sustainable. In a sense, their rights are ring fenced and they are not subject to the same conditions as others who are applying for licences. It does not consider that these users could be both wasteful and polluting and that agriculture and mining are in decline and shedding jobs. Existing users are not considered part of the problem and are unfairly seen as unilaterally productive and efficient whereas historically disadvantaged and/or

emerging users are forced to first prove that they have the capacity to make productive use of water in the economic sense.

The Department of Water and Sanitation argues that one of the main tools that is mentioned in the Act to redistribute water more equally is the compulsory licensing process (DWS, 2020). In this process all water users, those having rights may have their water use rights curtailed to make water available especially to those historically disadvantaged individuals that do not have access to water. There is a program in the Department called the Water Allocation Reform that must deal with this question. In some areas a process called validation and verification has also been started to work towards compulsory licensing. One of the main failures of the implementation of the National Water Act thus far has been the lack of implementation of compulsory licensing (DWS, 2020).

The principle of decentralization in the Water Services Act is also critiqued for failing to achieve the social equity it was intended to achieve. Devolved water management was a remedy to counteract the top-down approach of water governance under apartheid. However, achieving equity through decentralising water management without adequate budgetary allocation has led to an exacerbation of water poverty in some municipalities that do not have the resources or the capacity to provide enough potable water.

The Constitution assigns the function of providing water to residents to the local government. National government, however, must ensure that there is bulk water available for supply. They are also responsible, through the Water Services Act, for how water services are provided by local government. National government is supposed to play a regulatory role by setting national norms and standards for water service provision and monitoring compliance by Water Service Authorities (WSAs), as well as assisting these WSAs to perform their functions in line with the requirements for cooperative government in the constitution. The problem comes in when national government cannot directly take over the functions of local government and there is a long process that must be followed to settle disputes (DWS, 2020). The Department of Water and Sanitation has been providing the funding to local government in the forms of Municipal infrastructure Grant (MIG) funding, Regional Bulk Infrastructure Grant (RBIG) funding, Accelerated Community Infrastructure programme (ACIP) and Water and Sanitation Infrastructure Grant (WSIG). National transfers such as these are supplementary to other mechanisms for Water Service Authorities to finance their water service functions, like water user tariffs and equitable share of national revenue.

Sources in DWS, argue that that the failure to achieve greater social equity both with regards to water supply for domestic purposes and in accessing water for productive purposes lies in the inability of local government to spend the money on time to ensure that the projects are done or proper planning and project management that often do not take place. Although the grant is provided by the Department of Water and Sanitation, the local authorities are reporting to Provincial Departments of Co-operative Government and Traditional Affairs and the National Department of Co-operative Government and Traditional Affairs so the proper accountability that is sometimes lacking (DWS, 2020).

While there is a hierarchy of priority users established in the NWA, i.e. first the basic needs of all people and the amount of water for the ecological system to support life, followed by international agreements and finally authorisations for commerce and industry, the Act does not prescribe how to prioritise these uses from a place-based perspective like the PHA. The principles of equity, sustainability, efficiency and decentralized authority sit uncomfortably together in the Act with no guiding principles given as to how to resolve tensions between them. This is part of the reason that contested water governance areas like the PHA find it difficult to navigate competing uses.

Before the drought, within the PHA, the competing land uses of agriculture and urban development were both affecting water quality, and in terms of priority in the Act, both required an authorisation. However, during the drought the City wanted to use water for domestic purposes, a higher priority because of the basic human need principle that is a priority in the NWA (DWS, 2020). The drought therefore created a conflict between the priority use of water for domestic use and the use of water for agriculture and urban development.

There are a portion of the people living in and around the PHA who do not have acceptable access to basic water, despite having a right to it under the Constitution. The reasons for this are potentially diverse and it was not the brief of this research to do an empirical study of water provision. The inadequate municipal infrastructure could be because there is not enough funding to provide the infrastructure for safe, affordable water and sanitation, or it could be because there is not enough capacity to put in the infrastructure. In some cases, it could be that the informal settlement is on private land and in that instance, a local authority cannot provide basic water and sanitation services to the residents (DWS, 2020).

3.1.2 The National Water Resources Strategy 2 (NWRS 2) (Department of Water Affairs, 2013)

The NWRS 2 is the legal instrument for the implementation of the National Water Act and because of its legal status is binding on all authorities and institutions implementing the Act. It has 16 chapters covering water resource planning, infrastructure development and management, water resource protection, equitable water allocation, water conservation and demand management, institutional arrangements, regulation of the water sector, climate change water management, international cooperation, financial management, monitoring and information management, research and innovation, skills and capacity, emerging policy and the implementation of the strategy (Meissner, 2015). It calls for sustainable economic development that promotes economic growth, equity and water demand management. Like the NWA it is anthropocentric in its approach, moving from the assumption that we can technically control South Africa's water resources and efficiently manage water demand for human use. Its looks to demand management as well as scientific and engineering innovations like desalination, more dams and the re-use of wastewater to address current water shortages. Accordingly, "the purpose of the NWRS 2 is to ensure that national water resources are protected, used, developed, conserved, managed controlled in an efficient and sustainable manner towards achieving SA's development priorities in an equitable manner over the next five to 10 years" (Department of Water Affairs,2013:iii).

The NWRS 2, while acknowledging the principles of Integrated Water Resources Management (IWRM) namely, equity, sustainability and efficiency, diverges from it significantly (Van Koppen and Schreiner, 2014). The approach to water management in the NWRS 2 is described as a "developmental water management approach". This approach does not see water management as an end but politicises water, seeing it as subject to the needs of the South African developmental state. It further focuses on getting water infrastructure right and operationalizing equity through the Water Allocation Reform policy. The latter being specifically linked to the land restitution and reform programmes of the South African government. The NWRS 2, by placing so much emphasis on state involvement, moves the IWRM debate in South Africa away from privatization and the commodification of water towards the commons, with government seen as the director of the commons. It prioritises state investment in infrastructure and water management and does not rely on the market to set priorities.

The NWRS 2 provides a clear prioritization of the principles of equity and economic efficiency by setting the focus first on ecological and basic human reserves, second on international obligations and third on poverty eradication and inequality, fourth on water users of strategic importance, and fifth on licensed users for general economic purposes. However, this approach has not led to the desired increase in equity in water access or water capacity

in the country. Numerous reasons have been cited for insufficient progress including a lack of capacity in local government to implement reform as well as a lack of finances in national government to carry out the full implications of their mandate with regards to water management. However, the failure of national government to bring about the nine catchment management agencies that were set out in the NWRS 2, are highlighting the underemphasized principle in the document – that of cross-sector, cross-government collaboration. Increasingly, the concept of collaborative water governance is emerging. This shift implies a movement away from government "controlled" water resource management towards government directed collaborative water "governance".

Using the equity principle as a priority when interpreting the NWRS 2 as a guiding document in the PHA, is likely to propose that the provision of domestic use of water for all Cape Town users first, and secondly to farmers in the PHA for irrigation because of their contribution to food security, and lastly to commercial and industrial purposes. The decision to use the Cape Flats Aquifer to augment Cape Town's water supply during the peak of the drought in 2018 is justified by the equity principle. However, in a non-emergency situation where there is some room for negotiation, other priorities might have better long-term consequences The National Water Act states in section 27, for example, that when issuing a general authorisation or licence a responsible authority must take into account all relevant factors including socio-economic impact. For example, while there is enough water for domestic use elsewhere and some water for agriculture available perhaps farming activities should be given priority because they provide food security. Similarly, while industrial and commercial water uses do not enjoy priority in a drought, they remain important in less water stressed times because they provide jobs, a second order priority to water.

The issue being highlighted here is that context matters, principles considered in isolation from their context (water stressed or water rich) lack moral application. While under emergency conditions, there is no time for collaboration or reflection, at times of more water capacity there is more moral room to reflect, even change priorities or agricultural or industry practices or choices. There is also more time to look at ways of jointly encouraging business, the public sector and cultural and ecological conservationists to set collaborative goals.

3.1.3 Cape Town's New Water Programme 2018 (CTNWP, 2018) as adopted in the City of Cape Town Water Strategy 2019

To avoid a repeat of the severe water restrictions of 2017/18, the City of Cape Town developed a new water programme in March 2018 and adopted it in the Cape Town Water Strategy of 2019. The New Water Programme focused on increasing water security and developing new supplies (City of Cape Town New Water Programme, 2019). According to the document, Cape Town's major dams store about 900 million cubic metres of water. The Cape Flats Aquifer has above sea-level storage capacity of more than 600 million cubic metres, and the Table Mountain Group Aquifer more than 1 000 million cubic metres. It notes that total ground water storage, which is not affected by evaporation, is therefore much larger than the total storage of surface water dams. At a provincial level, the entire Western Cape Water Supply system (comprising the major dams) is 1 500 million litres per day, and Cape Town's allocation is about 900 million litres per day. The augmentation of Voëlvlei Dam would add another 60 million litres per day. The sustainable yield (with recharge) of the ground water sources far exceeds 200 million litres per day. In addition, Cape Town could produce over 200 million litres per day of potable water from wastewater. The document highlights the fact the quantity of water available from the sea is constrained by the cost that would be incurred in desalination. Of the three 'new sources' of water that could augment Cape Town's supply – ground water, wastewater reuse and seawater desalination – only desalination is totally independent of rainfall.

Describing how much additional water is needed, the New Water Programme states that if the very low rainfall of the last three years is assumed to continue into the future, then an augmentation of 200 to 250 million litres per day

(Ml/day) will be necessary to keep dam levels above 25% at the end of summer, providing a margin of safety. Any augmentation over and above this would increase levels of assurance and result in 'surplus water' through more frequent dam spillages during winter. Cape Town's augmentation plans in the New Water Programme are based on an augmentation of 350 Ml/day. The documents states that it is adopting a risk averse view that will give the City of Cape Town a very high level of assurance of supply and will prevent the kind of level 6 restrictions that were being implemented during the drought.

The CFA, on which the Philippi Horticultural Area stands, is expected to augment Cape Town's water supply by about 80 Ml/day. Exploratory drilling has already started, yield and quality testing is underway, and water use licenses were received from the Department of Water and Sanitation in March 2018. The license condition provides for an annual yield as well as annual recharge requirement. The augmentation programme currently shows a constant yield across the year of 55 Ml/day, but this will be varied as required, to a maximum yield of approximately 80 Ml/day for the first phase (CTNWP, 2018).

The City of Cape Town's New Water Programme's primary value is providing domestic water security for the people of Cape Town. It ensures this by:

- Reducing the water used by agriculture by ensuring agricultural water restrictions are enforced and explore short-term opportunities for trade
- Prioritising and scaling up ground water use and recharge
- Maximising the potential of the CFA in the short term (and arrange for recharge to maintain sustainable yield)
- Take Atlantis off surface water and adding 20 Ml/day additional capacity
- Continue with the sustainable development of Table Mountain aquifer (up to 50 million litres per day)
- Identifying and implementing a least cost permanent re-use project at appropriate scale
- Developing one 70 million litres per day water reuse treatment plant at an appropriate scale
- Begin permanent desalination by agreeing on the volume (120 to 150 Ml/day), on preferred site/s, and on the procurement and implementation model

Cape Town New Water Programme has significant implications for water ethics in the Philippi Horticultural Area. It prioritises domestic water use and therefore potentially threatens the availability of water for agricultural use. Moreover, it identifies the CFA as one of the key sources for augmenting Cape Town's domestic water supply. The City of Cape Town was issued with water use licences for the CFA in March 2018 with a need to annually recharge the aquifer. The increased pressure on the CFA to supply to residents of Cape Town by default (the CoCT does not have jurisdiction over agriculture use of water) may mean a reprioritizing of other water uses in the area, including farming, industrial, commercial and cultural.

3.1.4 Cape Town's Municipal Spatial Development Framework (Cape Town MSDF, 2018)

The MSDF sets out the spatial vision and development priorities for Cape Town. The document is a spatial interpretation of the City of Cape Town's Integrated Development Plan (IDP) and flows from the five-year review of the previous MSDF, which was drafted in 2012. The MSDF is informed by the requirements of the Spatial Planning and Land Use Management Act, Act 16 of 2014 (SPLUMA) and the City of Cape Town's Municipal Planning

By-law as well as a range of other national, provincial and local policy and law. It is influenced by South Africa's National Development Plan and the national Integrated Urban Development Framework (Cape Town MSDF, 2018).

The 2018 MSDF focuses on spatial transformation via dense and transit-oriented growth and development anchored by an efficient transport system. Whereas the 2012 MSDF projected long-term growth along two northern corridors, this MSDF proposes targeted investment and land use management based on inward growth. It has been influenced by among other factors: national fiscal constraints and the unsustainable operational costs associated with servicing peripheral development. The 2018 MSDF seeks to address the challenges of a routinely failing rail system and increasing levels of congestion of the City's roads. It also holds the recent water shortages facing the City as a "stark reminder that all cities will need to become more robust, resilient and efficient". Urban growth of a formal or informal nature is recognized as needing to be sensitive to climate change and associated water security risks.

The 2018 MSDF describes Cape Town as having entered a "phase of its development characterised by demographic and spatial consolidation within the context of low growth forecast for the global economy" (Cape Town MSDF, 2018). The analysis indicates that population growth is slowing, with household formation exceeding it, while in-migration rates and projections remain uncertain and difficult to predict. Household sizes have decreased from 3.92 to 3.17 people per household since 2011, with implications for housing supply. It is estimated that 35 000 housing opportunities must be supplied each year, over 20 years, to meet the current backlog.

The City of Cape Town's socio-economic index identifies the areas of greatest need and indicates that 25.5% of households live in 'needy' or 'very needy' areas of the city. Transport infrastructure is an important spatial structuring element of the city. The city's road, rail and bus rapid transport networks impact directly on its spatial form. Currently an estimated 500 000 people only have access to non-motorised transport and cannot afford public or private transport. In addition, poor households that do make use of public transport may have to dedicate up to 45% of their household income to make use of it.

The implication of Cape Town's spatial, social and economic challenges is that it must place sustained job generating economic growth at the heart of its spatial priorities. This means supporting investment in well-located growth nodes, reinforcing transit-oriented corridors and linking growing nodes with lagging nodes through connective infrastructure. The 2018 MSDF sees connected, inward growth as the most cost-effective way of reducing the social and economic costs of the current inefficient urban form. It plans to achieve this by focusing on four areas: the urban inner core, the incremental growth and consolidation areas, discouraged growth areas, critical natural asset areas and what it calls "unique cases". The PHA is categorized in the 2018 MSDF as a 'unique' area.

The PHA is categorized as a unique area because it plays a significant role in supporting food security at a metropolitan scale. The 2018 MSDF recognizes that the PHA is under formal and informal development threat and without formal spatial planning protection is at risk of losing its role as Cape Town's 'breadbasket'. Having a farming area within the urban footprint is unique and elevates the status of the PHA beyond that of an area of agricultural significance, the MSDF notes. Its location to residents enables the PHA to play a role in building resilience within the city from a food security perspective. The area has value as an aquifer recharge area and thus critical from a water resilience perspective too. The MSDF is currently the only statutory document that can recognise this resilience role. Recent development applications, court applications, highly variable and continuously changing local area circumstances, incomplete data, and broader urban issues make the designation of the PHA as a unique area problematic.

The 2018 MSDF recognises three distinct areas in the PHA:

- The Philippi Farming Area

  This is where the proposed future for horticulture and farming has been and remains unanimously agreed to. This area is shown as a Critical Natural Area (CNA). The MSDF states that further investigation and work is required with regards to the northern area which is currently included in the PHA on the basis of inadequate evidence-based information but could be amended to Incremental Growth and Consolidation Areas, subject to further investigation. Provisional reference is made to the PHA which has a newly defined extent, but engagement with the broader PHA community should be undertaken to obtain input on a name ('breadbasket', 'farming economy area' or 'Cape flats farming economy area' could also be considered) (MSDF, 2018).

- Southernmost area

  This is inclusive of the Rapicorp/Oaklands and MSP/UVest areas. These areas are regarded as Incremental Growth and Consolidation Areas (IGA) based on the land use rights that have been granted. The MSDF recognizes that there is a court case in process on the issue but sees the ideal future designation to be Critical Natural Area (CNA). It goes so far as to say that should the court set aside the decision on the relevant land use application these areas should be considered for inclusion in the Philippi Farming Area.

- Remainder area

  This area is inclusive of Highlands Estate, as well as a far western area between Knowle Park and the Lotus River canal. This is considered as an Incremental Growth and Consolidation with the proposed urban areas in the draft Schaapskraal study. The MSDF sees the roll-out of the planned Integrated Rapid Transit system (IRT) in this area as justification for a future amendment to the north-western area abutting Strandfontein Road to IGA or Urban Inner Core.

The current MSDF represents a significant normative shift towards greater protection of the ecological reserve in the PHA to ensure greater food security and water resilience in Cape Town. While no explicit justification for this is given in the document, it would seem likely that the recharging of the now highly valued CFA could be one of main motivations to move away from industrial and commercial development that might be more potentially polluting. This is shown by the desire expressed by planners to return the Oaklands and UVest areas designation back to Critical Natural Areas so they can be included in the Philippi Natural Farming Area. The drought in the Western Cape appears to have created a heightened sensitivity among planners in Cape Town towards ecosystem limits and pollution, and this shift could be categorized as one from unsustainable land and water uses in the PHA towards enlightened anthropocentrism.

3.2 QUESTIONNAIRE-BASED INTERVIEWS WITH STAKEHOLDERS FROM THE PHA TO UNDERSTAND THEIR VALUES AROUND WATER AND DEVELOPMENT IN THE PHA

Less than eight of the 34 participants in the initial questionnaire saw access to water as the central concern in the PHA. The sample of people initially interviewed included representatives from the farming community (small, large and emerging farmers), farm labourers, informal settlement residents, activists, politicians, non-governmental organisations, national, provincial and local government officials, small and large business interests, water experts and consultants. However, they all recognised that life without water is impossible. While the drought had changed

people's relationship to water, making them more careful and less wasteful, there was a belief that there was enough water in the CFA for a variety of uses to be satisfied. Many stakeholders like farmers, government departments and those occupying political positions said there was inadequate research around the quantity and quality of water in the aquifer. More geo-hydrological detailing of the Cape Flats Aquifer and its sources of pollution and replenishment were needed.

Crime, by contrast, appeared as one of the top priorities to be addressed. Everyone agreed that it was halting development in the PHA. Both farmers and farm labourers living in informal settlements complained about the impacts of crime on their lives. The farmers were plagued with petty crime like the stealing of vegetables as well as big item crime, like the theft of pumps and cables. People living in informal settlements experienced gang-related crime that threatened their lives and their possessions.

Both the farmers and the informal settlement dwellers complained that the police did not respond effectively. They either arrived too late or did not come at all. Some farmers suspected the police were implicated in criminal activities. This history of criminal activity has dated back many years. One informal settlement resident related how the "Jesus Killer" operated in the area and killed several women. Suggestions for dealing with crime included a neighbourhood watch, better street lighting, and an improved social compact.

A city council official said that the criminal activity was a result of the disintegrated sense of community in the PHA. They said that because the social compact had been broken down, it was easy for criminals to infiltrate because there was no strong sense of community to oust them. This view was supported by an activist/community leader who said the community was divided because, for among other reasons, the relationship between farmworkers and farmers was not good. They had not been given tenure on the farms despite generations of working with the commercial farmers' families.

Most people interviewed living in the PHA said they were in "survival mode", albeit for different reasons. Farmers were cash-strapped and mortgaged to the bank. They said farming was increasingly unprofitable, especially with the amount of theft and the high cost of electricity. One farmer spent as much as R375 000 a month on electricity. It was the middleman that made the money in farming these days, not the farmer themselves, they said. Some farm labourers and informal settlement dwellers felt that their dignity was being affected by the conditions they lived under. They were not recognised for the role they had played in building the area and labouring on the farms for all these years.

A lack of clarity with regards to what ethics is and the role it could play in water governance was another common thread in all the interviews, regardless of people's education levels. A few saw ethics as a private issue, but the majority saw it has something that extended beyond one's self and required some form of agreement and dialogue with others. Only three of the 34 people interviewed saw ethics as extending beyond humans to other non-human beings and resources. On the more specific application of ethics like the principle of land distribution and justice, some people had strong opinions.

Race relations were mentioned by several groups. Some farmers felt they were overlooked by government agencies because they were white. One community leader blamed the lack of social cohesion in the area on the negative way in which the white farmers had treated their black farm labourers and were continuing to do. One municipal official said a certain psychology remained among the white farmers in the PHA. This psychology involved wanting to remain in charge of the area and not wanting to live among Moslems and people of other cultures.

On the issue of management philosophies like Integrated Water Resources Management, most people were ignorant with only two government officials fully understanding what it entailed. The relationship between spheres of government and various pieces of legislation pertaining to water management were accepted by the farmers but not understood or referred to by many of the other stakeholders. The need to marry sustainability, efficiency and equity, however, are understood as principles but not recognised as belonging to the term “Integrated Water Resources Management”. Farmers and economic development specialists were more acquainted with the ethics of auditing systems like Euro-gap, an international food safety standard.

Another common theme in all the interviews was concern about the lack of government involvement in the area, both at a council level and at a national government level. Both national and provincial government admitted to not being as present in the area as much as was needed. The national Department of Human Settlements, Water and Sanitation (DWS) said they relied on communities to come to them. They had a working relationship with the PHA Food and Farming Campaign and received individual applications for licences. They said that the area needed to organise themselves better by setting up a Water Users Association.

DWS did not see it as their responsibility to be on the ground in the area more than they were. Some farmers said that the national government should be more present with regards to the abstraction of water and assist them with finding suitable boreholes. Complaints about a lack of government involvement were not only confined to national departments. Others complained that the government boreholes were being sunk at great expense. A member of the NGO community commented that government structures treated the PHA like a forgotten “stepchild”. The people of the PHA paid taxes but did not receive adequate services. The septic tank system was not effective and there were regular power outages and water problems with very little support from the municipality. Meanwhile, a provincial government official interviewed agreed: “Government has failed the PHA,” they said. The area was not a priority and research reports were ignored. It had suffered from neglect for some time.

There was a great difference of opinion among the people of the PHA with regards to how they understand the nature of the conflict in the PHA. The difference related to their different life circumstances. Most farmers interviewed did not see the developers as a threat. Instead, they saw them as a possible way out of the difficult financial situation the farmers currently experienced and the unsafe conditions under which they had to live and farm. Farmers, however, would only sell their farms if the offer was suitably priced. They did not want to leave the area at any cost. They understood the value of the land they owned and wanted to be compensated for its full worth.

The informal settlement dwellers and the farm labourers saw the conflict in the PHA mostly as a domestic issue where they wanted access to electricity, taps closer to their homes and eventually actual houses, rather than shacks. The debate about what the land was used for, whether development or farming seemed a non-issue, except if it was related to job losses. The informal settlement dwellers were not opposed to the farmers per se provided their wages remained good and the hours of work were acceptable. The general theme was that they needed to stay employed.

However, the local government politicians and officials saw the conflict in the PHA as centring largely a round “development land” versus “farming land”. This was also shared by the PHA Food and Farming Campaign, an activist grouping that wanted to retain the rural character of the area and adopt a conservation approach to farming. This view is shared by a minority of mostly small farmers who would like the rural sense of place of the area they grew up in to be retained.

Three other stakeholders involved in technologically more advanced farming schemes, saw part of the problem being centred round a failure to adopt better suited farming technologies in the windswept region. If farming was to be profitable and sufficiently provide for food security in the region, then better adapted water technologies were needed, they said.

Solutions to the differently perceived conflict in the PHA were divergent but not incompatible. Farmers largely wanted a law enforcement intervention to happen, perhaps through a neighbourhood watch. The informal settlement dwellers wanted electricity, more direct access to water and housing to be provided. Some government officials involved in the PHA called for more planning and increased government support, while others said the community needed to improve its own social cohesion by forming a social compact that could negotiate with government departments. Visions of the area as an agricultural hub of activity that included an agricultural college for the youth, agri-processing and the piloting of new and innovative farming techniques on small-scale farms were other dreams that were being proposed.

Midway through the interviews what became clear is that there are many more convergences than divergences among the stakeholders than was anticipated. While people have different values and concerns, they all understand the significance of water for the future of the PHA. There is a general call for increased government planning, support and prioritisation and a concomitant call for stronger social cohesion and community dialogue.

3.3 THE FIRST WORKSHOP

The first workshop involved a presentation to more than 25 of the participants in the questionnaire who included representatives from the farming community (small, large and emerging farmers), farm labourers, informal settlement residents, activists, politicians, non-governmental organisations, national, provincial and local government officials, small and large business interests, water experts and consultants. The presentation was on the inputs of the interviews, summarised in Table 2-1 below. The rationale for doing this was to expose each of the stakeholders to the views of all the other stakeholders. In the past, it was discovered, due to a lack of meaningful dialogue, people living in the PHA have had very little opportunity to hear other stakeholders' views without negative judgment or historical prejudice.

Following the presentation, participants were divided into five diverse groups and once again asked the same four open-end questions. The aim was to see if the groups, that were now comprised of a diversity of stakeholders (farmers, business interests, officials and politicians, residents and informal settlement dwellers) would be able to begin to share some goals. Here in Table 2-1 below is the feedback per group. As demonstrated by the responses, participants began to develop common goals.

Table 2-1: Workshop 1 Group Feedback

	Group 1:	Group 2:	Group 3:	Group 4:	Group 5:
What is the problem?	Lack of knowledge about how much water there is in the Cape Flats Aquifer and how recharging is taking place as well as what impact farming and informal settlements have on the pollution of the aquifer. The PHA was proclaimed a protected area in 1968 and without sufficient public participation was rezoned in places for development	The PHA was proclaimed a protected area in 1968 and without enough public participation was rezoned in places for development	Water is depleting and becoming contaminated. There is a lack of public participation, management and access to the aquifer.	There is a lack of oversight, a lack of community understanding of the PHA	Lack of information and political instability
Cause of this problem	The neglect and incompetence of local, national and provincial government officials. There were two agendas at conflict: one focused on development and the other on agriculture. A general lack of consultation with interested and affected parties was seen as a core problem.	Unethical decision making underpinned by greed and financial gain.	The City of Cape Town is extracting water, the quality of the water is not inspected and there is uncontrolled urban development. People are selling water from taps in the informal settlement. There is a lack of communication.	There is a lack of management.	Complicated hierarchical structure of government.

The Solution?	Scientific water management with more involvement of stakeholders. Improved information dissemination to the public.	Regulatory authorities should establish strong principles and lines of authority and accountability. Reform farming practices based on protection of aquifer by using 1988 Guide Plan Map as starting point.	Recharge the aquifer, retain storage, regulate activity and include PHA in City's mandate.	More management and education	Water recharge and recycling
How do we get there?	Farmers need to unify into a property owners association. Stakeholders need to lobby City of Cape Town to protect the PHA and locals to participate in food production and security.	Revisit and strengthen the proclamation. Ask national government to ensure long-term protection of aquifer overlay zone and surface land and to enforce this on provincial and municipal government. Establish forums and lobby for consensus on the protection of the PHA	Establish a forum of all members of society. Improve cohesion between spheres of government. Improve policing.	Develop the youth by establishing a soccer field.	Scientific management to inform decision-making. Planned sewerage and housing.

3.4 THE SECOND WORKSHOP

Just before the second workshop, that was attended by 18 participants who had participated in the first questionnaire (participants were selected to be a cross section of the stakeholders in the PHA from the farming community, farm labourers, informal settlement residents, activists, politicians, non-governmental organisations, national, provincial and local government officials, small and large business interests, water experts and consultants) were given a PHA Water Ethics Report that summarised the process discussed above. Findings for joint problem identification, joint perceived causes, and joint perceived solutions were discussed. The preliminary conclusion of this interim report to the participants was that there were many more convergences than divergences among the stakeholders than was anticipated.

While people had expressed different values and concerns, they all understood the significance of water for the future of the PHA. Moreover, many of the divergence of opinion and solutions were not incompatible. To illustrate this, the researcher presented the following joint understandings that had emerged from the five group discussions emanating from the first workshop.

Joint Problem Identification

- Lack of scientific knowledge about how much water there is in the Cape Flats Aquifer and how recharging is taking place as well as what impact farming and informal settlements have on the pollution of the aquifer.
- Unethical decision-making with regards to the initial legal protection of the PHA as a proclaimed area in 1968.
- Political instability in the area.
- Two conflicting agendas: agriculture vs development.
- A lack of adequate water and land management.

Joint Perceived Causes

- There is a complicated hierarchical structure within government.
- There is a lack of social cohesion in the community.
- There is unethical behaviour on the part of communities.
- There is incompetence with regards to government officials overseeing the PHA
- There is disregard for the legal protection of the PHA.
- There is a lack of consultation and communication with stakeholders.

Joint perceived alternatives

- Improved water management.
- Planned Development.
- Strong principles and lines of authority and accountability.
- More consultation with stakeholders.
- More unity among farmers.
- How do we get there?
- Scientific water management to inform decision-making.
- Water recharge, storing and recycling.
- Planned sewerage and housing in Philippi.

- Develop the youth by establishing more recreational facilities in PHA.
- Establish a forum for all stakeholders to improve collaboration and communication.
- Improve intergovernmental cooperation and cohesion.
- Improve Policing.
- Revisit and strengthen the proclamation.
- Farmers need to unify into a property owners association.
- More locals to participate in food production and security.
- Improved farming practices.

After the presentation, the researcher asked the participants of the workshop to feedback on any developments or progress since the last workshop.

3.4.1 Feedback from Participants in the Second Workshop

Industry	The City has continued to support PEDI including objectives and deliverables with regards to urban agriculture in the PHA, and specifically with regards to emerging farmers. The current question is around how communities can improve access to markets via the Philippi Fresh Produce Market, and urban management. There are synergies between the PHA and others in terms of the market.
Councillor	Things have gone backwards. Pollution is a problem. Only 'high-level' stuff is being dealt with but nothing tangible on the ground. This is romanticising.
Informal Settlement Dweller	Informal settlements are 'on hold' until they can be dealt with. There are lots of promises but no implementation.
Consultant	The research report has been adopted by an inter-governmental committee and cabinet. Western Cape Department of Agriculture and the City of Cape Town are working on an implementation framework to be tabled. This will include actions for each department or agency involved to provide policy certainty. The CoCT and Mayco are looking to formally adopt the framework. A government department and stakeholder forum is proposed and various stakeholders are being approached to participate in that forum. Officials at the CoCT are to be appointed/mandated to deal with the PHA specifically. This will include a 'precinct management structure.'
Activists	The inter-governmental working group has been adopted by provincial cabinet and the CoCT and DEADP. Cabinet made the decision that the CoCT must not oppose the PHA campaign. The Mayor and DEADP want to hand over the area for development. There is no political will to build housing on the 10 000 ha of available land identified within the City.
Activist	Nothing to report.
DWA	The Department of Water and Sanitation conducted a study and the PHA needs to be protected, specifically for preserving wetlands. They are willing to attend subsequent meetings.

Water Scientists	Critical Zone Observatory? (is) monitoring ALL processes affecting natural habitat. This falls in under the City's groundwater monitoring scheme. Potential (in the future) to share this data via mobile technology and to include everybody in the water monitoring process.
Small Farmer	The City is passing the buck from department to department. Smallholder farmers are here to stay and the land reform department is currently looking to buy up more land.
City of Cape Town	The City is attending to storm water issues around the Schaapskraal area.
City of Cape Town	The government must make strategic decisions. There are two management options with regards to the City's water and sanitation. Is the PHA only for farming or will there be 'mixed' development and a 'balance' between urban and agricultural.
Activist	There has been new illegal dumping on Varkensvlei Road. Flood areas are being filled up with illegal dumping and will flood homes on Vlei Road. The City is nor responding to complaints/calls. The use of drones to monitor crime was mentioned by Alan Winde at the last meeting and blame was shifted onto the SAPS. This is electioneering. PHA is involved with a group to develop a bio-diversity corridor and to develop the sloot system in the PHA to sort blockages and dumping. This will also improve aesthetics. The EPWP programme can be used for this.
Developer	There are lots of plans but no action. The inner core of the PHA was mapped and can be protected. This is the same plan that was put in place 9 years ago. A fund needs to be established to finance development in the PHA. There was a breakdown of the meeting after the developer used the term 'hardening of surfaces'. One of the activists reacted to this statement and a heated argument between them and others ensued. The developer left the meeting. It was decided to go ahead with the feedback.
Consultant	No improvement in terms of bureaucracy. There are too many forms (to complete) and studies (being conducted). Government officials are functioning as gatekeepers.
Councillor	Alternative land is being looked for, and the time is coming for negotiation. Human Settlements (department) needs to find land within the PHA for housing. Politicians and Councillors need to be brought together. There MUST be negotiation and compromise. It had been determined at a meeting that there is around R5 million to spend in connection with the drones for security monitoring purposes. A Councillor for the area has been absent for many years and race issues remain a problem but there is guilt on both sides. Land use is not up to scratch at City level.
Commercial Farmer	The number of farmers in the PHA farming vegetables has reduced to 12-15 of 28. There used to be double that number of farmers. There is disagreement among the commercial farmers regarding the future of the PHA. Farmers operate in isolation (they receive no support from the state or the banks) and the land is under threat.

Commercial farmer	He didn't say anything other than what his perceived issues were with the PHA. Used it as a platform to explain the position of the commercial farmer. Cut short.
Activists	Communities don't know where their veggies come from.

3.4.2 Moving Towards Action in Workshop 2

In the second part of the meeting, the participants were asked to bracket the perceived problems and causes in the PHA and focus instead on joint outcomes and of ways of achieving these joint outcomes.

The meeting was divided into two groups initially and asked to find an immediate, medium term and long-term actions that would express their joint values of Unity, Sustainability (Environmental, Social and Economic), Consultation and Participation. These were then later combined into one set of joint actions, agreed on by both groups.

3.4.3 Joint Proposed Actions

1. Immediate Action

- The establishment of a PHA Partnership or Stakeholder Forum – The meeting decided to form a committee

2. Proposed Actions of the Committee

- That the Department of Water and Sanitation provides facts and figures around water to the community, and that the processes (government, departmental, national, local, provincial) are explained and clarified.
- Budgets relevant to the PHA should be explained and how those budgets are used should be explained.
- A recreational facility must be identified (existing facility used for compost).
- Consol Glass may be able to source land to be donated for a soccer field.
- Start a community (and EPWP) programme to unblock the sloots, raise awareness and clean up the area as well as establish a biodiversity corridor. Plant trees and shrubs to beautify the area and clean the water.

3. Medium Term Actions

- Look into the EPWP programme to provide employment. This is linked to proposed EPWP funding available in the PHA framework that is to be adopted.
- Host 'Where does your food come from' and 'Long Table' events in the PHA. Stagger ticket prices so that tickets can be subsidised for the poor. (110 people can fit into the PHA campaign centre).
- Use 18 July (Mandela Day) to do a clean-up and awareness day.
- Organize transport or a mobile clinic for the PHA as community members are walking kilometres to collect medication from the clinic.

4. Longer Term Actions

- Link Partnership to PHA government framework stakeholder group.

3.4.4 Divergences in the Second Workshop

There were three core areas of dispute in the workshop. The first of these were how much of the PHA should be paved over and how much should remain agricultural land. The mention of hardened surfaces by the developer in their feedback led to a heated debate among participants, ending in a stand-off between the developer and an activist, with the developer leaving the premises. The City of Cape Town reiterated that the matter of where the PHA should be mixed use or agricultural area alone had not been resolved.

The second area of dispute centred on how much political will there was to preserve the PHA. One of the consultants said that there had been a significant shift in government departments towards the importance of persevering the PHA. The Indego research report has been adopted by an inter- governmental committee and cabinet. The Western Cape Department of Agriculture and the City of Cape Town were working on an implementation framework to be tabled.

This would include actions for each department or agency involved to provide policy certainty. The CoCT and Mayco were looking to formally adopt the framework. A government department and stakeholder forum was proposed and various stakeholders were being approached to participate in that forum. Officials at the CoCT were to be appointed/mandated to deal with the PHA specifically. This would include a 'precinct management structure'.

The Department of Water and Sanitation echoed that there was an awareness of the significance of the PHA from an ecological point of view and a desire to see its protection.

An activist, however, said this could not be interpreted as political will. While the inter-governmental working group had been adopted by provincial cabinet and the CoCT and DEADP, and cabinet had made the decision that the CoCT should not oppose the PHA campaign, this did not mean that area would not be developed. They said the Mayor and DEADP wanted to hand over the area for development. There was also no political will to build housing on the 10 000 ha of available land identified within the City.

Another consultant said that government officials were acting as gatekeepers and that bureaucracy and the filling of forms remained a problem in the PHA.

The third significant area of dispute lay over how much had been resolved with regards to the issue of addressing the needs of informal settlement dwellers in the PHA. Some felt things had gone backwards; others thought it was on hold with lots of promises but not action. One councillor, however, disagreed and said that negotiations were under way and that compromise was needed with regards to accommodating some squatters in the PHA.

3.4.5 Convergences in the Second Workshop

Despite the heated nature of the workshop, the meeting took a different turn when the participants were asked to focus on joint actions that would support their jointly identified values of unity, sustainability, consultation and participation. In this regard, the formation of a community-driven partnership or stakeholder committee at the end of the meeting signified a movement towards increased unity.

The researcher asked the participants to think of joint initiatives that would address their prime values. What emerged was a focus on the youth and a need for recreational facilities for them. The flooding of the PHA in the rainy season was identified as an issue and there was a call to open the canals that linked the farms and create a biodiversity corridor.

In the medium term, recognition of the area as an important food security site in the Cape Town was and the precinct management structure. The workshop participants felt it was important to have a community

structure where the mandate was driven by the community and not government highlighted and the need to have a festival or a community event that flagged this was emphasised. The use of the Extended Public Works Programme to address unemployment was suggested as was health facilities and the call for a mobile clinic.

Over the longer term, the meeting wanted to link to the proposed multi-stakeholder government forum legislation or structures. This emphasis on community ownership and participation highlighted a growing theme in the workshop discussion of the need for regular consultation both among community members and also between government departments and the community.

3.5 THE THIRD WORKSHOP

The workshop consisting of 16 participants who included representatives from the farming community, informal settlement residents, activists and government officials started with a discussion about the preliminary research conclusions, that there was more convergence of opinion among stakeholder in the PHA than had been anticipated. Questions were raised about how ethics and a lack of cohesion linked to water specifically. It was explained that the research began with a strong focus on water management in the PHA but ended up highlighting broader issues in the research process. This was unavoidable because water issues are seldom separate from broader development issues.

The meeting continued with the final research task with participants being asked to identify a series of tangible indicators for the values of unity, sustainability and participation identified at the previous workshop. The methodology of using indicators to measure the progress of values was gleaned from the work of environmental philosopher Bryan Norton who used this process to assist communities to keep track of how close they were to achieving their goals (Norton, 2005) By linking intangible values to tangible outcomes, participants are easier able to keep track of progress.

To measure ‘unity’, workshops or meetings were suggested. A committee or working group needed to be created that met at least once a month. To measure participation the meeting needed to be representative of different stakeholder groups. To measure social, environmental and economic sustainability the following indicators were developed as recorded in Table 2-2 below.

Table 2-2: Social, Environmental and Economic Indicators

SOCIAL	ENVIRONMENTAL	ECONOMIC
Upliftment	Water Quality	Infrastructure
Employment	Ensure Resilience	Public Transport
Health/Wellbeing	Climate Change Measurements	Value/Ha – Rise in the Farm Gate Price
Facilities	Increased Biodiversity	Change in City Tariffs for Farmers
Training Opportunities	Improved Irrigation Practices	Number of (Market) Contracts
Access to Land	Rehabilitation of Natural Resources	Diverse Market Opportunities
Education Facilities	Reduced Water Use	Increase in Land Value
Community Education		Growth in the PHA Brand

SOCIAL	ENVIRONMENTAL	ECONOMIC
Improved Labour Relations (Survey)		F**ewer Vegetable 'Imports'**
Fewer Wage Disputes/Strikes		

When the indicators were defined, the stakeholders decided to form the PHA Partnership Improvement Forum. They requested that the researchers assist with the development of the Constitution of the Forum so that it could interact with the Intergovernmental Forum that had been constituted by the Indego Report.

3.6 ADDITIONAL MEETINGS

A series of additional meetings took place between July and November 2019 with the research team that did not form part of the original research project at the request of the stakeholders who said they required a neutral party to assist with forming the multi-stakeholder forum they needed. At these sessions a discussion was started about the structure of the PHA Partnership Improvement Forum and what steps were needed to formalise it. Procedural rules were formulated about how meetings should be conducted. In November, stakeholder negotiations reached a high point when the Kaapse Vlakte Landbou Vereniging (KVLV) (Cape Flats Agricultural Association) attended the first PHA Partnership Improvement Forum. This was a significant shift towards improved social cohesion in the PHA as farmers (both emerging and big commercial farmers), informal settlement dwellers and activists joined forces to write the Constitution of the new organisation. In the section below, the process of forming the Forum is discussed in more detail.

The Formation of the PHA Partnership Improvement Forum (see Appendix D for Constitution of PHA Improvement Forum)

In July, a discussion was started about the structure of the PHA Partnership Improvement Forum. It was decided to take a step in formalizing the Forum. The following decisions were taken:

Meetings should be based on shared principles such as:

- Respect
- Acknowledging that there are multiple truths in any given situation
- Agreeing that no one person or grouping should dominate the meeting
- Agreeing to apologize when having caused offence
- Agreeing to seek collective solutions to problems rather than attribute blame

With regards to proposals that were submitted at the Forum it was decided:

- The process with regards to floating proposals at the Forum is important
- Agreement that the process should be as transparent as possible but that the Forum has no authority to 'overturn' a proposal, it can only refuse to cooperate with it
- All proposals should be discussed and evaluated by the Forum on the basis of the potential or perceived benefit to the PHA community as a whole

The scope of the Forum and objectives:

There was a suggestion that the Forum only focus on water issues, but agreement that this is too limited given the issues faced in the PHA. A broad forum is necessary that includes (among others) committees for:

- Informal Settlements
- Education
- Crime
- Housing
- Water

The structuring the forum with various committees also brought it in line with the work mandated in the Indego Plan, which cut across various issues.

Suggested focus or objectives:

To serve and improve the PHA and its communities in terms of:

- Food Security
- Water Security
- Community Safety/Crime Prevention
- Socio-economic development (as befits the PHA's agricultural character)
- Local land reform

Forum members and activities:

- Agreement that the Forum should be kept open and allow non-members/ non-PHA residents to attend meetings.
- Meetings were not open/mass meetings, but rather a space for representatives to discuss, plan, share information and collaborate in problem solving. This might include:
    - Farming association representatives (small, emerging, and commercial)
    - Resident's Associations and various forum representatives (e.g. community safety)
    - Informal Settlement Leaders or representatives
    - Campaign representatives
    - Business representatives
    - NPOs
    - Civic organisations
    - Government officials and department representatives (from all levels)
- Meetings could be moved when required for community input – i.e. to the informal settlements.
- Otherwise, it was the responsibility of the subcommittees/representatives to relay information to the community.

With regards to the administration of the Forum it was decided that Leanne Seeliger and Katherine Morris who were currently chairing, facilitating and organizing Forum meetings should continue. There was agreement that this responsibility would have to shift and that these activities would have to be taken on by Forum members. Furthermore, there was agreement regarding a rotating chair for each meeting and that sensitive information (for example, the identities of people engaged in illegal dumping) should not be shared at the forum.

3.7 THE SECOND QUESTIONNAIRE

The purpose of second questionnaire was to evaluate the impact of the ethics process on improved water governance by asking the stakeholders the same open-ended questions and the factual questions again to see if they had altered their perspectives and secondly to ask them to evaluate the process and its impact on their values.

A total of 16 respondents out of the 34 respondents from the first questionnaire (who included farmers, farm labourers, informal settlement residents, activists, politicians, non-governmental organisations, national, provincial and local government officials, small and large business interests, water experts and consultants), filled in the second questionnaire. Some filled it on May 13, 2019 at the beginning of the third workshop when the research process was supposed to end, and others filled it in October/November 2019 when the actual research process ended. Some filled it in twice, but their last submissions were recorded because it was argued hindsight would provide more accurate responses.

Two key additional questions were asked;

1. Has your interaction with other viewpoints in this research changed the way in which you understand water management in the PHA?
2. Are you more positive or less positive about achieving improved water management in the Philippi Horticultural Area?

With regards to the open-ended questions, most participants showed some change, some were more obvious while others were more subtle. The most pronounced shift emerged from one informal settlement representative. Asked what the nature of the conflict was in the PHA, they initially explained it simply as “a lack of ethics”. However, in the second questionnaire their answer was far broader, they said: “it is about city and province together with some farmers’ objective to pave the area. It is about private property rights vs the zoning – the commons which belongs to all in the city for the benefit and management of resources land and aquifer – of all”. The informal settlement representative also called for a greater focus on co-operation too. He moved from a singular focus on the need for human dignity with regards to water and sanitation provision in the informal settlement to a more systemic understanding of the water governance situation in the Philippi Horticultural Area. For example, when asked whether the current distribution of water was just, they had initially described it as unjust, and in the second questionnaire they said: “the water management system fails the area”.

The councillors who answered the second questionnaire also made some noticeable shifts in their perspectives. One councillor, who previously thought the distribution of water was just, was now more sympathetic to what they perceived as “injustice in the distribution of water resources” with farmers enjoying more rights than others. The other councillor, who previously had been very focused on the ownership of resources in the informal settlement, now focused more on the need for consistency, monitoring and greater policing with regards to water management in the PHA.

One of the officials who answered the second questionnaire had also changed perspective from a focus on greater ownership in the PHA for a broader section of stakeholders to an awareness of the impact of conflict and mistrust in the community. This official remarked particularly on the division between race groups and the time that it would take to resolve.

The retailers and an industry representative showed a heightened awareness of the need for increased community involvement. For example, the retailer had previously argued for more responsible use of water as well as equitable access to it, now said: “the community and the government should make sure that all stakeholders are complying with the law”. Similarly, the industry representative who previously had only called

for government enforcements of compliance with regards to water use now said that the solution to improved water management lay in a more holistic plan with all stakeholders.

Of the three farmers, two had broadened their views from the main issue in the PHA being about crime, too a greater understanding of the need for development and protection of the aquifer. However, one of the farmers was adamant that none of their viewpoints had been altered by the process.

Similarly, activists who had filled in the questionnaire remained entrenched in their viewpoints. As did a consultant who had been very knowledgeable about the area but showed little change in attitude.

With regards to the question about how the research process had changed their understanding of water management, 9 out of the 16 respondents had experienced a change in their understanding, four had not, and one described it as a deepening of their understanding rather than a change. The councillors, for example, both experienced a change, one understanding the injustice of water licencing and the other became more knowledgeable about the water channels in the PHA.

One farmer claimed no change in their understanding while the other said the exercise had led them to understand other people's views. A consultant said their views had not changed but they had experienced a deepening of their understanding the situation in the PHA. An informal settlement dweller arguably experienced the most change in their perspective, saying: "Yes, now I have a better understand as what role I can play to make a change and my voice be heard".

One activist experienced a change whereas another claimed not to but said: "I understand that more critical dialogue needs to happen. More work needs to be done on connecting the interests of the individual needs to be married to the interests of the commons. There is a lack of leadership in protecting and managing the resource. Issues of race and class factor high in managing the resource and must be overcome". A retailer and an industry representative claimed they had both experienced a change their perspective, better understanding people's views and fears.

Out of the 16 people who completed the second questionnaire, 12 were more positive about being able to bring about change in water governance after completing the research exercise. Out of the remaining four, two believed this was only partly due to this process, other processes had also played a role and two did not answer this question.

One city official involved with economic development said the research had played a positive role but that a lot more needed to be done. Most said the research had opened their eyes. "My engagement in this research opened my eyes to the different opinions on various issues on the PHA. When you speak to the farmers they have a view. When you speak to the informal settlements they have a different view and when you speak to the PHA Campaign they have a total different view on issue on the PHA", said a councillor.

An activist described the value of the research as follows: "the value of this research was in bringing together the stakeholders and rights holders to a dialogue on water ethics." A consultant said: "I am positive that there have been a number of factors that have driven attitude change within the community and government, primarily the drought and including this project".

This was a central theme in the response to the research process, stakeholders felt that something needed to happen. While talking and hearing people's views was helpful, real change in water governance on the ground and in the socio-economic conditions of people living, farming and working in the PHA was needed before the ethics research process could be evaluated as a success. An ethics research process that lead to action was thus desired.

CHAPTER 4: DISCUSSION

4.1 INTRODUCTION

The Organisation for Economic Co-operation and Development (OECD) website describes water governance as the rules, practices, and processes that enables decision-making around water resources and services and holds decision-makers accountable. In the light of the ensuing crisis, the organisation calls for the practical tools to assist government and other stakeholders to implement better water governance (OECD, 2020). This research demonstrates how an ethics research methodology could be a powerful complementary tool for both government, communities and researchers to achieve improved water governance.

In the section that follows, the report discusses the ways in which the research methodology unmasks the gap between what is expressed in legislation and policy, and what is understood and practiced by communities and government departments. It also creates a potential process to assist in bridging this gap.

Secondly, an ethics research methodology first exposes the lack of social cohesion and understanding between stakeholders and secondly creates a process for the potential creation of social cohesion and understanding.

Thirdly, the ethics research methodology demonstrates the lack of trust between governments and communities and the lack of co-operation between government departments. It also, however, creates a potential platform for more meaningful engagement that could rebuild a community's confidence in government and create a less formal space for different government departments to reflect on their interaction with one another.

Fourthly, the ethics research promoted environmental awareness and scientific understanding of the ways in which the CFA was being polluted, through the polluting of the channels in the PHA.

Fifthly, an ethics research methodology has the potential to improve the social impact of research by developing a method of tracking the progress of peoples' values. It does this by linking tangible indicators to values hereby deepening the impact of some participatory action research methodologies.

4.2 UNMASKING THE GAP BETWEEN WATER POLICY/LEGISLATION, COMMUNITY EXPERIENCE AND GOVERNMENT INTERACTION

The ethics research methodology begins with a value analysis of the existing legislation and policy that has direct impact on water governance in the PHA. This is an important step in the process because it creates the context in which the values of government officials, business stakeholders and community members should be understood.

However, when the first questionnaire was completed during the interviews with the stakeholders it became evident that very few participants were aware of or understood the context in which decisions were being made about water resources in their area. Only a few understood what Integrated Water Resource Management was and were able to explain it. There were even one or two government officials that were not clear on this concept, which forms the background to the National Water Act and the NWRS 2.

While the Cape Town New Water Programme has significant implications for water ethics in the PHA, this context was not a key focus of stakeholders interviewed. The Cape Town NWP prioritises domestic water use and over agricultural water use. Moreover, it identifies the CFA as one of the key sources for augmenting Cape Town's domestic water supply. The CoCT was issued with water use licences for abstraction of water from the Cape Flats Aquifer in March with the prerequisite of recharging the aquifer. These facts were not well known by those interviewed. No one discussed the New Water Programme or how it impacted on farming activity.

While the Municipal Spatial Development Plan was better understood, especially by councillors, activists and government officials, stakeholders were not generally aware of the fact that MSDF had shown a significant normative shift towards greater protection of the ecological reserve in the PHA. While the drought in Cape Town created a heightened sensitivity among planners in Cape Town towards ecosystem limits and water pollution, this shift had not been registered by stakeholders on the ground. The general feeling of most stakeholders was that there was no management of water in the PHA and that both the City and the Department of Human Settlements Water and Sanitation continued to disregard the importance of the PHA, and that the farmers were left to their own devices to manage the water.

While the National Water Act, the NWRS 2 the Cape Town New Water Programme and the Municipal SDF on paper provided significant protection to water resources in the PHA, there is little understanding or reflection on how these principles can be used to protect water resources in the PHA by the community, farmers and other stakeholders. Part of the reason for this is the lack of trust in government and its ability to uphold its own legislation and policies. Another part of the reason is the absence of platforms or forums where stakeholders can meaningfully engage with government policy and legislation. A case in point are the obligatory Integrated Development Plan meetings of municipalities, where public participation and engagement is often reduced to acrimonious lobbying by vocal community groups and the passive listing of the wishes of community members by officials.

The ethics research methodology introduced the concept of Integrated Water Resources Management and probed the principles and values of stakeholders, encouraging them to engage both with their own values and the legislative and policy context with regards to water in the PHA. The three workshops confronted the community and business stakeholders with national, provincial and local government stakeholders giving them the opportunity to find out for themselves what policies and processes were in operation. The workshop process also assisted government departments because it gave them an opportunity to explain their processes and engage in non-confrontational ways with stakeholders where they were also able to express their value positions.

4.3 THE ROLE OF THE FACILITATOR IN AN ENVIRONMENTAL PRAGMATIST INSPIRED FACILITATION PROCESS

The facilitator in this ethics research process had to take time to go through the questionnaire with the stakeholders. The questions were not straight forward "yes" and "no" questions and the facilitator had to assist the stakeholders to articulate their values. Some stakeholders did not understand the distinction between facts and values and did not see the point of an ethics questionnaire process. A process of deep listening and careful recording of positions took place. These were fed back to the stakeholders before they were open to the group to ensure that they accurately reflected their views.

The facilitator had to build trust with the stakeholders. Many of the respondents did not trust any community engagement processes in the PHA. They were concerned that their opinions would not be faithfully recorded and that they would not be heard. Once the trust had been established between the facilitator and the stakeholders in the interview questionnaire, this had to be transferred to the group discussion where the

facilitator had to create a safe and equal space where everyone, regardless of education level, felt comfortable to express their opinion. The process was successful in getting residents of informal settlements to become stakeholders but less successful in getting farmworkers on board. The full participation of the commercial farmers only happened after the completion of the research process, with only a handful participating during the research process.

Of equal importance was the need to allow conflict to unfold and to encourage stakeholders to remain part of the process, despite their divergent value positions. This required the creation of a set of basic rules of respectful engagement that was formulated by the stakeholders themselves. A delicate balance of allowing conflicting opinions to emerge as well as maintaining respectful discussion was needed.

It is important for a facilitator in a research process like this to remain as neutral as possible. Neutral in the sense of having no preconceived outcome in mind or no need to control the process or the value positions of people. A degree of self-knowledge and self-analysis is required to achieve this so as not to be seen to support any one stakeholders' point of view above another. While all facilitators will have their own value positions, these must be held in abeyance during the process of facilitation.

4.4 BUILDING SOCIAL COHESION AMONG WATER USERS

One of the key issues was a break down in trust among stakeholders living in the PHA. The farming community that comprises small farmers, larger-scale commercial farmers and emergent farmers all have differing viewpoints about how water should be managed in the PHA. Activists and developers are locked in a court battle over the developments that are planned in the area. There are also several committees representing the multitude of informal settlements that have developed in the PHA farming area and around it.

This multitude of disparate organisations that have limited opportunities to engage with one another mean that stakeholders are not able to build trust amongst themselves or learn to work together. Much of the mudslinging that occurs, does so in the media and results in a further breakdown in trust. The ethics research methodology was able to build trust because the researcher, using the university research protocols, was able to assure anonymity of their inputs.

The research interview that was a one-on-one, often hour-long process meant that participants felt assured that their viewpoints were being recorded. The researcher also gave the interviewee the guarantee that their responses would be emailed back to them so that they could see if their responses had been captured correctly.

The trust created by the interview process with the researcher enabled the researcher to bring all the stakeholders together for the workshop. By the second workshop all the stakeholders had been exposed to the viewpoints of other interested parties through a mediated process, thereby taking the emotions out of it and creating a neutral space for reflection. The stakeholders also included government departments and role-players who were also assured of their anonymity and given the time and space to reflect on their own values and mandates within government. The social cohesion did not take place immediately but by the end of the research process, the stakeholders all identified unity as one of their key values.

The structure of the workshop process was also designed to build trust. In the first workshop, the stakeholders received a summarised version of their inputs and then were broken into groups to begin forming joint problem identifications and solutions. These discussions were critical in promoting social cohesion and restoring a sense of community. While emotional debates erupted at times they led to the formulation of a set of procedural rules that governed how meetings were conducted. These procedural rules were integral to the restoration of respect that is a key building block of a sense of community.

Perhaps, the pinnacle of success with regards to social cohesion occurred in a momentous occasion after the ethics research process had been completed. The researchers were asked to assist with the facilitation of the Constitution of the new organisation, the Philippi Horticultural Area Improvement Partnership Forum. The formulation of the Constitution and the holding of the first Annual General Meeting is an important and necessary process for them to be recognised by the PHA Intergovernmental Forum that was set up by the Indego Report discussed. It was at one of these facilitation workshops that the Kaapse Vlakte Landbou Vereniging attended for the first time and later joined in the formulation of the new Constitution for the Philippi Horticultural Area Partnership Improvement Forum. This meant for the first time all stakeholders in the PHA, small and emerging farmers, informal settlement dwellers and activists were represented on one body. This is significant because now government can deal with a community organisation that represents all interested and affected parties.

The farmworkers as a stakeholder group was unrepresented in the workshops. Although they had been interviewed, it was difficult for them to get to meetings due to lack of transport and access to email. One of the farmworkers interviewed struggled with literacy, making their participation in the workshops difficult. This has been recognised by the PHA Partnership Improvement Forum who are encouraging the farmworkers and the informal settlement dwellers to form organisations that could join the PHA Partnership Improvement Forum. However, this should be flagged as a potential limitation of the ethics-based research methodology that was employed. It required a level of access to technology, transport and a measure of literacy for participants as well as the ability to get away from work as workshops were held during working hours. Moreover, the fear of speaking openly in front of the farmers who employ them might have further prevented their active involvement.

It could be argued that timing played an important role in the ability of the ethics methodology to create cohesion. There had been a drought and people were conscious of the need to address water issues so stakeholders were more compelled to collaborate. While social cohesion might not always be the outcome of an ethics research methodology, improved communication is likely always to be because it focuses on clarifying the core convergences and divergences that role-players are experiencing.

4.5 FACILITATING TRUST AND IMPROVED INTERACTION BETWEEN GOVERNMENT AND COMMUNITIES AND WITHIN GOVERNMENT

The workshops in the research process created a “safe space” for government and community stakeholders to discuss tensions with regards to the management of water and other matters in the PHA. The research process was about reflection and discussion and because it was operating outside of formal government processes, real engagement on matters of value could take place. At one workshop after the completion of the formal research process, one official when discussing the science and implementation of aquifer recharge yelled out “I am asking you to trust government on the importance of Aquifer Recharge” to which the whole meeting burst into laughter, signifying the lack of trust that existed.

The ethics research methodology was successful at improving trust between government and communities to the extent that government departments started using the research process, and the resulting PHA Partnership Improvement Forum, as a means of accessing the diverse PHA community structures. The CoCT regularly attended the workshops, with National Department of Human Settlements, Water and Sanitation and the Western Cape Department of Agriculture attending intermittently. The research process was used by all these departments to share important information on their activities to stakeholders in the PHA.

What differed in the engagement between government and communities in the research process, was that it was not a top-down, government led process where farmers, community members and informal settlement residents were following a prescribed government-led mandate. Neither was it an entirely community-driven

process that involved only a mudslinging match about government's lack of delivery. Instead, what took place were value-driven discussions and reflections on how water governance and other community issues could be best tackled, given the existence of resource limitations, on the part of the community, and on the part of local and potentially national government. The reflective academic research process created a space for change that had not existed prior to the ethics research methodology.

The extent of the engagement between government and communities led to the collaborative writing of another research proposal. It was entitled The Ethics of Adaptive Collaborative Water Governance on the Cape Flats Aquifer: A case study in the Philippi Horticultural Area where an action research project will focus on combining the insights of scientific adaptive management and an ethics cantered approach to water governance. This research has been specifically designed to enable government to improve water governance through community embedded values (water ethics), real-time water quality data (water science) and diverse stakeholder collaboration.

Moreover, during the ethics research process, the entire PHA Partnership Improvement Forum that included the CoCT were motivated to drive around inspecting the blocked channels that cause flooding on the farms and in the informal settlements. The momentum created by this excursion led to the formation of another proposal that was submitted to the Worldwide Fund for Nature to re-open the channels entitled: Restoring the Waterways of the PHA. The proposal is waiting to be evaluated by the funder. In this funding proposal both the CoCT and the Western Cape Department of Agriculture agreed to release some funds to hire Expanded Public Works Programme staff to assist with the clearing of the channels.

4.6 IMPROVING ENVIRONMENTAL AWARENESS IN THE PHA

The ethics research methodology was by design multi-disciplinary and included scientists from Umvoto – a geohydrological company conducting water quality and geohydrological research on the Cape Flats Aquifer. Their input in the interviews and workshops were important for keeping the discussions informed about environmental sustainability and water quality.

One of the key sources of water pollution in the PHA are the channels, many of which are blocked with building rubble and other pollution that community members have discarded. In the workshops, the ideas of restoring the waterways of the PHA was mooted and followed up on by the site visit mentioned above that included Umvoto and lead to the submission of the proposal: Restoring the Waterways of the PHA. The direct water-related environmental benefits of restoring the channels in the PHA was listed by Umvoto as being:

- Improved drainage of a flood prone area. By clearing out the canals, stormwater will drain away faster from areas in which there is low infiltration capacity, reducing the negative impacts of flooding.

- Improved quality of groundwater recharge. Contamination from waste collected in the canals can infiltrate into the aquifer and cause long lasting environmental impacts. Restoring the waterways will reduce the potential for contamination and improve the quality of water infiltrating into the aquifer system. Additionally, an increase in good quality recharge will gradually improve groundwater quality in the area.

- Enhanced quantity of groundwater recharge. The use of unlined canals to channel storm water provides the opportunity for water to infiltrate into the underlying aquifer system. Groundwater levels in the PHA are currently declining, suggesting an imbalance between use and recharge. Enhancing groundwater recharge will have a positive effect on the sustainability of groundwater use in the PHA.

4.7 ADDING VALUE TO WATER RESEARCH METHODOLOGIES

The ethics research methodology shares some characteristics of Participatory Action Research (PAR) in the sense that it involves the collection of data for action purposes and to bring about change. It focuses on getting local people to participate in analysing their own solutions over which they have power, thereby creating a public platform for them to reshape their socio-economic processes. The solutions that emerged within the context of an ethics methodology sprung out of the contexts of divergent people's lives, through the creation of a cyclic process of research, reflection, action to address specific issues (Mc Donald, 2012).

It could be argued that the ethics research methodology adds value to PAR by developing a process whereby participants in the research can track how much progress they have made in achieving social and environmental impact. This is achieved through the unique linking of values to tangible indicators. Water quality data in the PHA for example could measure improved water governance, and number of people employed could measure economic sustainability in the PHA.

Within the water governance context, an ethics methodology also shares some similarities to an action research methodology called Participatory Rural Appraisal used in watershed management. Participatory Rural Appraisal (PRA) is a process of understanding people, their resources, their socio-economic conditions and exploring their problems, their aspirations and potentials in partnership with people themselves (Singh et al., 2017). Like PAR, an ethics methodology enables local people to express, share and analyse their knowledge and living conditions, in order to adapt, plan and act.

How the ethics research methodology differs from some action research methodologies is that it does not invite the participants in as co-researchers to design the research process. It has a very specific process of eliciting the values of participants, showing convergences and divergences – and from there allowing the participants to define their own tangible indicators to trace the values that they have agreed on together. The participants remain participants and are not co-researchers, the researcher remains a facilitator and maintains as neutral a stance as possible leaving the participants to work out their joint values and tangible indicators of those values in water governance processes.

It is this insistence on playing a facilitator role of the researcher that was central to the success of the ethics research methodology in the PHA. If the researcher at any point "chose a side" or attempted to guide the joint stakeholder input in a direction or had any interest to protect in the PHA, other than to facilitate an ethics process, the research would have derailed. This is because the PHA has a history of being over-researched and managed neglectfully via 'remote control' by various government departments. The stakeholders in the PHA are sensitive to "being managed" from people outside the area, and fiercely protective of their independence.

However, despite and perhaps because of their independent streak, it would also not have worked to engage them in co-designing the research process. In the beginning, no neutral ground or platform existed for participants to engage in meaningful dialogue. The ethics methodology created a more neutral playing field for stakeholders to start the process of sharing their problems, values and visions for the future. Moreover, the problematising of all perspectives in the workshops through group reflection and discussion about all the divergent values and differing solutions shared some of the characteristics of discourse analysis, because it focused on the constructed nature of truth. Leopold et al. (2019) quoting Foucault describe discourse analysis as "systems of ideas and practices that construct 'truths' about objects, subjects and social realities…"

The ethics research methodology kept the playing field deliberately open by stubbornly remaining inclusive (allowing all who wanted to attend, to join) and encouraging of divergence, while seeking convergence. Stakeholders who differed from one another, sometimes angrily, were encouraged to remain in conversation together to construct new truths. Not all stakeholders were able to do this with some leaving the research

process. However, a core of 16 people remained committed to the research process and new people joined as the “new truths” about the future of water governance in the PHA emerged.

CHAPTER 5: CONCLUSIONS & RECOMMENDATIONS

5.1 CONCLUSIONS

An ethics research methodology could:

- play a significant role in facilitating the societal shift from water government to water governance, where water is collaboratively managed by government, communities, business and non-governmental organisations.

  - it can facilitate this collaborative shift by focusing on shared values, joint actions and how to measure success jointly rather than restricting conversation to government mandates and community grievances.

- assist governments in improving their engagement with communities, business and non-governmental organisation in contested water governance contexts.

  - it improves government engagement through creating a neutral, more informal space in which shared values can emerge and differences can be aired, without fear of reprisal.

- assist in building capacity in communities to interpret government legislation and policy within different water governance contexts to both challenge and support government decisions that affect their water resources.

  - it creates an opportunity for communities to learn about government processes, develop the skills to interact with officials and the opportunities to build bigger networks of influence.

- assist communities to build social cohesion around issues of water governance so that they can interact effectively with government and developers.

  - it achieves this by creating a reflective platform for stakeholders to meet their neighbours and other interest groups that share their concerns and build alliances.

- assist the Water Research Commission and other research institutions in increasing the social impact of their water governance research.

  - it does this by focusing on what matters to communities and business and creating a process of measuring how these values materialise with tangible indicators.

5.2 RECOMMENDATIONS

It is recommended that:

- The Department of Water and Sanitation, the City of Cape Town and the Western Cape Departments of Environmental Affairs and Development Planning and, of Agriculture consider using an ethics research methodology in all their contested water governance hotspots that require public participation processes. The methodology has the potential to unblock longstanding disputes in water governance and open the doors for improved co-operation between stakeholders and government around water governance

  Current government-led public participation process (e.g. in Integrated Development Plan meetings and Environmental Impact Assessments) are restricted to top-down processes that involve communities

listing their concerns, often acrimoniously and without discussion of what is important. These issues are seldom tracked or followed up on after the interaction. This leaves many issues unresolved.

- Further legal research be done into how ethical analysis could be included as a core process in existing public participation processes that affect water resources.

  The ethics methodology piloted in this case study demonstrated what a powerful tool that discussions around values and ethics can be within contested water governance issues. However, research processes are ad hoc and not part of normal government procedure. It would be far more valuable to include ethical analysis as a core part of water governance public participation processes.

- The Water Research Commission consider developing a Water Governance Ethics Short Course in conjunction with Stellenbosch University that could be offered to officials in the Department of Human Settlements, Water and Sanitation as well as Catchment Management Agencies, Waterboards and community groups charged with managing water resources.

  The aim of the short course would be to train water governance practitioners, both in government and in communities, in ethics and value-driven facilitation processes that would enable them to better engage with diverse stakeholders in water governance conflicts.

REFERENCES

Battersby-Lennard, J. and Haysom, G., 2012. *Philippi Horticultural Area: A City Asset or Potential Development Node?* African Food Security Urban Network, African Centre for Cities, University of Cape Town.

Brown, P.G. and Schmidt, J.J., 2010. Water Ethics.

City of Cape Town's Municipal Spatial Development Programme. 2018. https://www.tda.gov.za/docs/categories/2757/MSDF.pdf

City of Cape Town's New Water Programme, 2018. https://www.greencape.co.za/assets/Uploads/Annexure-to-Water-Outlook-New-Water-Program-23-March-2018.pdf

Department of Water Affairs, South Africa. 2013 National Water Resource Strategy, June 2013, Second Edition. Pretoria. 200 pp.

Department of Water and Sanitation (DWS), 2020. An interview with an official from the Department of Water and Sanitation on the National Water Act and its implications.

Funke, N., Nortje, K., Findlater, K., Burns, M., Turton, A., Weaver, A. and Hattingh, H., 2007. Redressing inequality: South Africa's new water policy. *Environment: Science and Policy for Sustainable Development*, *49*(3), pp.10-23.

Francis, R., 2005. Water justice in South Africa: natural resources policy at the intersection of human rights, economics, and political power. *Geo. Int'l Envtl. L. Rev.*, *18*, p.149.

Groenfeldt, D. and Schmidt, J.J., 2013. Ethics and water governance. *Ecology and Society*, *18*(1).

Hay, R., McGibbon, D., Botha, F. and Riemann, K., 2015. Cape flats aquifer and false bay–opportunities to change. https://www.imesa.org.za/wp-content/uploads/2015/11/Paper-16-Cape-flats-aquifer-and-false-bay-Opportunities-to-change-Rowena-Hay.pdf

Harrison, K and Hoffman, W. 2018. PHA SOCIO-ECONOMIC AGRICULTURAL PLAN MEDIA BRIEFING DOCUMENT 17 April 2018. http://www.elsenburg.com/sites/default/files/news/philippi/PHA%20summary.pdf

Leipold, S., Feindt, P.H., Winkel, G. and Keller, R., 2019. Discourse analysis of environmental policy revisited: traditions, trends, perspectives.

MacDonald, C., 2012. Understanding participatory action research: A qualitative research methodology option. *The Canadian Journal of Action Research*, *13*(2), pp.34-50.

Meissner, R., 2016. Paradigms and theories in water governance: The case of South Africa's National Water Resource Strategy. *Water SA*, *42*(1), pp.1-10.

Movik, S., 2014. A fair share? Perceptions of justice in South Africa's water allocation reform policy. *Geoforum*, *54*, pp.187-195.

Naidoo, V., 2019. Relevance and importance of ethics in post-grad research at South African universities. In *Ethics in Research Practice and Innovation* (pp. 75-87). IGI Global.

Norton, B.G., 2005. *Sustainability: A philosophy of adaptive ecosystem management*. University of Chicago Press.

Odume, O.N. and De Wet, C., 2016. *The role of environmental ethics in social-ecological systems and water resource management* (No. 2342/1, p. 16). WRC report.

Organisation for Economic Co-operation and Development, 2020. https://www.oecd.org/ (last accessed 6 July 2020).

Pediaa, 2020. https://pediaa.com/difference-between-values-and-principles/ (last accessed 6 July 2020).

Singh, G., Kumar, V., Sharma, K.R., Singh, A., Buttar, T.S., Gupta, R.K., Mir, G. and Kumar, A., 2017. Participatory Rural Appraisal (PRA) Approach for Watershed Management in India: A review. *Int. J. Curr. Microbiol. App. Sci*, *6*(7), pp.1924-1940.

Ramírez, R.R., Seeliger, L. and Di Pietro, F., 2016. Price, virtues, principles: How to discern what inspires best practices in water management? A case study about small farmers in the Yucatan Peninsula of Mexico. *Sustainability*, *8*(4), p.385.

Republic of South Africa, 1998. National Water Act (Act No. 36 of 1998). *Government Gazette*, (19182).

Seeliger, L., 2009. *On the value of environmental pragmatism in economic decision-making: with special reference to the work of Bryan Norton* (Doctoral dissertation, Stellenbosch: University of Stellenbosch).

Van Koppen, B. and Schreiner, B., 2014. Moving beyond integrated water resource management: developmental water management in South Africa. *International Journal of Water Resources Development*, *30*(3), pp.543-558.

APPENDIX A: ETHICS QUESTIONNAIRE 1

Philippi Horticultural Area First Ethics Questionnaire

This first questionnaire will be administered to participants at the start of the research project to gauge their current values with regards to water governance in the Philippi Horticultural Area.

Factual Questions

1. Is there enough water in the Cape Flats Aquifer to allow farmers to farm sustainably?
2. Is the quality of water in the Cape Flats Aquifer of a high enough standard for farming?
3. Has the current drought affected water supply in the Cape Flats Aquifer?
4. Who is responsible for water management in your area?
5. What is Integrated Water Resource Management?
6. Do you apply an Integrated Water Resource Management approach to water use in the Philippi Horticultural Area?
7. What is the current dispute in the Philippi Horticultural Area about?

Value Questions

1. Why is water important to you?
2. What principles influence the way in which you manage water?
3. What principles do you think should govern the way water is managed by your community/government?
4. Is water being properly managed in the Philippi Horticultural Area? If yes, why? If not, why not?
5. If you were in charge, how would you manage it?)
6. Is the current distribution of water in the Philippi Horticultural Area, fair and just? If yes, why? If not, why not/how would you manage it?

General Ethical Questions

1. What, in your view, is ethics?
2. What would an ethical way of managing water in the Philippi Horticultural Area look like?
3. Do you feel ethical principles are present in the current management of water in the area? If yes, why? If not, why not?
4. How should Integrated Water Resource Management be adapted to better reflect your core values with regards to water management?

APPENDIX B: ETHICS QUESTIONNAIRE 2

Philippi Horticultural Area Second Ethics Questionnaire

The second questionnaire is intended to probe in the second phase of the research if there has been any change in the values of the participant with regards to water governance in the Philippi Horticultural Area during the research process where they have been exposed to different value positions and viewpoints.

The participants will have been exposed to different viewpoints in an initial workshop where the initial findings of the first questionnaire and interviews will have been discussed with them.

In order to achieve this, the same questions are repeated to gauge if there is an actual change in their answers. Participants are thereafter invited to give their own opinion as to whether they believe their perception has changed, and how it might have changed.

Factual Questions

1. Is there enough water in the Cape Flats Aquifer to allow farmers to farm sustainably?
2. Is the quality of water in the Cape Flats Aquifer of a high enough standard for farming?
3. Has the current drought affected water supply in the Cape Flats Aquifer?
4. Who is responsible for water management in your area?
5. What is Integrated Water Resource Management?
6. Do you apply an Integrated Water Resource Management approach to water use in the Philippi Horticultural Area?
7. What is the current dispute in the Philippi Horticultural Area about?

Value Questions

1. Why is water important to you?
2. What principles influence the way in which you manage water?
3. What principles do you think should govern the way water is managed by your community/government?
4. Is water being properly managed in the Philippi Horticultural Area? If yes, why? If not, why not?
5. If you were in charge, how would you manage it?
6. Is the current distribution of water in the Philippi Horticultural Area, fair and just? If yes, why? If not, why not/how would you manage it?

General Ethical Questions

1. What, in your view, is ethics?
2. What would an ethical way of managing water in the Philippi Horticultural Area look like?
3. Do you feel ethical principles are present in the current management of water in the area? If yes, why? If not, why not?
4. How should Integrated Water Resource Management be adapted to better reflect your core values with regards to water management?

Specific Questions on How Participants Perceive a Potential Change in Their Own Values

1. Has your interaction with other viewpoints in this research exercise changed the way in which you understand water management in the Philippi Horticultural Area? If yes, how? If not, why not?
2. How do you now better understand the current water/land dispute in the Philippi Horticultural Area?
3. What do you now see as a just and equitable distribution and/or allocation of water resources in the Philippi Horticultural Area?
4. What do you think needs to be done to bring about change in water management in the Philippi Horticultural Area?
5. Are you more, or less positive about achieving this after having engaged in this research exercise? If yes, why, if not, why not?

APPENDIX C: OPEN-ENDED INTERVIEW QUESTIONS

Philippi Horticultural Area Ethics Open Ended Interview Questions

The set of questions below will be used in the in-depth interviews. They serve as a general guideline and will not necessarily all be answered by each participant.

The main aim of these questions is to gain an understanding of what the core values of each participant are with regard to water management in the Philippi Horticultural Area.

They are not designed to be exhaustive but rather to give an indication of the overall perception of the participant with regards to water management.

Preliminary Questions

1. What is the nature and depth of the water conflict/water governance stalemate in the Philippi Horticultural Area?
2. How did we arrive at this point?
3. What should we have instead of this conflict/stalemate? (the ideal position)
4. How should we move from the current state of affairs to the ideal position?

Draft Constitution of the PHA Improvement Partnership Forum
Compiled by PhD Student Katherine Morris

CONSTITUTION OF THE PHILIPPI HORTICULTURAL AREA IMPROVEMENT PARTNERSHIP FORUM

1. Background and Purpose

2. Functions

2.1 The functions of the Forum will be to –

(a) Maintain a space in and through which the activities, knowledge, and resources of various individuals, government departments (local, provincial, and national), and government and non-government entities (NGOs), civic organisations, faith-based organisations, corporate entities and local businesses, and research organisations can be coordinated for the benefit of the PHA community as a whole.

(b) Identify areas and issues within the PHA in need of intervention, improvement or co-ordinated action, and communicate those issues to the relevant parties.

(c) Maintain transparency of the Forum's activities by communicating the activities of the Forum to all Forum members and to other appropriate bodies such as the Intergovernmental Forum for the PHA.

2.2 The core objectives of the Forum will be to serve and improve the PHA and its communities in terms of:

(a) Food Security

(b) Water Security

(c) Community Safety and Security

(d) Socio-economic development (as befits the PHA's agricultural character)

(e) Local land reform

3. Composition

3.1 Membership to the Forum is open to all who live, work, or have an interest in the PHA.

3.2 Members might include: individuals, farmers, representatives of local business, NGOs and NPOs, government entities and departments, research institutions, faith-based organisations, civic organisations, and others according to point 3.1 above.

3.3 It is suggested that other institutions are to be invited when there is a need for them to make presentations or share information with the Forum.

3.6 A member will be disqualified if he/she:

- transgresses the role and responsibilities of members as set out in section 4 below.
- has conflict of interest with the activities of the Forum which was not declared.
- Is found to have violated the space established by the Forum by using information or knowledge shared at the forum to impinge on the constitutional rights of any Forum members, or guests of the Forum.
- are found to have used the Forum for political purposes, or attempted to politicise the Forum.

4. Roles and Responsibilities of Members

4.1 The roles of members of the Forum are to:

(a) act in good faith, and be constructive in their participation in the activities and discussion of the Forum.

(b) afford all members an equal opportunity to raise and discuss issues.

(c) reach decisions by consensus.

(d) recommend that their institutions, constituencies or organisations support the execution of decisions adopted at meetings.

4.2 The responsibilities and commitments of members of the Forum are to:

(a) ensure a level of confidentiality of matters discussed, and respect requests for complete confidentiality for matters to remain amongst member organizations.

(b) attend meetings of the Forum, however, in the event that members are unable to attend, they are to tender their apologies or allow for a representative to attend through a notice to the secretariat of the Forum.

(c) provide any information required/requested by the Forum accurately and timeously.

(d) give regular feedback to the institution being represented on the business of the Forum.

4.3 Members agree to conduct themselves and adhere to the following principles:

- Respect
- Acknowledging that there are multiple truths in any given situation
- Agreeing that no one person or grouping should dominate the meeting

- Agreeing to apologize when having caused offence
- Agreeing to seek collective solutions to problems rather than attribute blame

5. Standing Rules of Order

The Forum shall allow for adaptation of its rules as required.

5.1 Meetings

The Forum shall meet at least once a quarter or as determined by the Chairperson in conjunction with the members, to execute its duties as set out in the Terms of Reference above.

5.1.1 Meetings are not open/mass meetings, but rather a space for representatives to discuss, plan, share information and collaborate in problem solving.

5.1.2 Meetings can be moved when required for community input – i.e. to the informal settlements.

5.1.3 It is the responsibility of the Forum members and the subcommittee or constituency representatives to relay information to their various communities.

5.2 Chairmanship

5.2.1 The Forum shall make use of a rotating chair.

5.2.2 If the Chairperson is absent or unable to act for any reason, s/he must nominate a person to take the chair, or if s/he is unable to do so, the FORUM members present must nominate a person to chair the meeting.

5.3 Secretariat

An individual, or individuals will be nominated by the Forum to attend to secretariat duties for a fixed period (to be determined). The Secretary shall:

(i) Give written notice of meetings;
(ii) Keep an attendance register;
(iii) Write and send out minutes;
(iv) Draw up an agenda in line with the order of business;
(v) Ensure flow of information between members, and
(vi) Deal with correspondence and communication.

5.4 Notice of Meetings

5.4.1 The Secretariat must give timeous written and/or e-mail notice of meetings to each Forum member.

5.4.2 The notice must set out the time, date and place of each meeting and must include an agenda and such documentation necessary to enable participants to prepare for meetings.

5.4.3 Members must notify the Secretariat in writing about their attendance or apology (either themselves or alternates) by 12h00 on the day before the day of the meeting.

5.4.4 Members whose written apologies are not received by the Secretariat as required in terms of par. 5.4.3 above, will be recorded as absent without apology.

5.5 Agenda

5.5.1 The agenda must be drawn up by the Secretariat and sent to Forum members not later than five working days before a forum meeting;

5.5.2 The agenda must be drawn up according to the order of business; Forum members may place items on the agenda by submitting them to the Secretariat.

5.6 Minutes

5.6.1 The Secretariat must keep an accurate record of the minutes as well as other information presented at the FORUM meeting. Minutes must be sent to each member no later than two weeks after each meeting.

5.6.2 The minutes must be adopted with changes, if any at the following meeting of the FORUM.

5.7 Order of Business

5.7.1 The order of business of the meeting will be as follows:

1. Opening
2. Present and apologies
3. Adoption of the Agenda
4. Adoption of the minutes of the previous meeting
5. Matters arising from the minutes of the previous meeting
6. Business issues
7. Additional matters placed on the agenda by PLC members
8. Date of next meeting
9. Closure

5.7.2 The Chairman may give preference to any item on the agenda with the consent of the meeting.

5.7.3 The Chairman may as a matter of urgency or necessity accept a request to discuss a matter not on the agenda with the agreement of the meeting.

5.8 Proceedings at Meetings

5.8.1 Meetings must be conducted on the basis of participation and respect for each other.

5.8.2 When speaking a person must speak to the issue under discussion or on a point of order.

5.8.3 Any member must be given an opportunity to make his/her point without interruption.

5.9 Proposals

5.9.1 The proposal process should be as transparent as possible.

5.9.2 The Forum has no authority to 'overturn' a proposal, it can only refuse to cooperate with it.

5.9.3 All proposals should be discussed and evaluated by the Forum on the basis of the potential or perceived benefit to the PHA community as a whole.

5.10 Decision-making

5.10.1 Decisions will be taken by consensus wherever possible.

5.10.2 Where this has not been possible, after thorough debate and discussion, decisions will be recorded as reflecting –

(i) the view of the majority of the Forum members present, and

(ii) the minority viewpoint/s.

5.10.3 Where a vote has to be taken as contemplated as per par 5.10.2, such vote shall be by a show of hands unless any member requests a secret ballot.

5.11 Electronic Communication

5.11.1 In the event that an item on the agenda of the Forum meeting could not be finalised and can also not stand over to be dealt with at the next meeting, it must then be resolved by way of electronic communication.

5.11.2 The Secretariat must electronically circulate the outstanding matter to all members, collate all inputs/comments and then submit the matter to all FORUM members to resolve.

5.11.3 All matters dealt with in terms of par. 5.11.2 above, must be submitted by the Secretariat to the next Forum meeting for ratification.