A PROPOSED MANAGEMENT FRAMEWORK FOR WATER STEWARDSHIP FOR SMALL BUSINESS IN SOUTH AFRICA

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By: Collette Huxtable

SUPERVISED BY:

Ms Leticia Greyling

ORCID ID:

0000-0002-1178-0263

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ABSTRACT

Climate change, severe weather events, population growth and, urbanisation are just a few of the leading causes contributing to the global water crisis. This global water crisis is negatively impacting the environment, and society, which includes business (large and small). Businesses are facing many water risks and challenges in their daily operations, such as water scarcity, water stress and water pollution, which are resulting in them being negatively impacted financially. For all business to overcome these risks and challenges which are negatively impacting their operations and to assist in protecting the scarce water resources left on the planet, the implementation of water stewardship practices will play a very important role.

The literature has fallen short in addressing water stewardship frameworks and practices for small business. Through a sustainability lens underpinned by Natural Resource Based View Theory, this research study sets out to develop a water stewardship framework for implementation by small business to provide them with a competitive advantage. By reviewing the current literature and frameworks available to large business organisations, the insights gained allowed for a draft water stewardship framework to be developed from this literature, suitable for small business. This draft water stewardship framework for small business was used to gather further information on its suitability for small business, through an interview process. A qualitative interview process with seven small businesses in Makhanda (South Africa), allowed for data to be gathered and used to refine and adjust the draft water stewardship framework for small business.

The findings from this research study show that small business do not have a global awareness of water problems and are not aware of the concept of water stewardship. Small business were very receptive to the draft water stewardship framework for small business and felt that its implementation would make a difference in saving scarce water resources and create a competitive advantage for them.

The study concludes by recommending a water stewardship framework for small business (WSF4SB), who will play a leading role in fighting the water crisis. The implementation of the WSF4SB aims to provide small business with a sustainable competitive advantage by looking after scarce water resources ensuring there is sufficient water for current and future generations.

DECLARATION

I, Collette Huxtable, hereby declare that the research presented in this thesis is my original work, does not, in its entirety or part, exist as someone else's work and was not previously submitted to any institution. All sources used have been presented and accurately acknowledged with the utmost integrity.

Signed: Collette Huxtable Date: 12 December 2022

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LIST OF ABBREVIATIONS AND ACRONYMS

AI	Artificial Intelligence
AWS	Alliance for Water Stewardship
CDP	Carbon Disclosure Project
CSR	Corporate Social Responsibility
GSDR	Global Sustainable Development Report
ICMM	International Council on Mining and Metals
IFAD	International Fund for Agricultural Development
IRJAH	International Research Journal of Arts and Humanities
IUCN	International Union for Conservation of Nature and Natural Resources
NGO	Non-Governmental Organisation
NRBV	Natural Resource Based-View Theory
POPIA	Protection of Personal Information Act
SAIA	South African Insurance Agency
SDG	Sustainable Development Goal
SME	Small and Medium Enterprise
SWM	Sustainable Water Management
SWPN	Strategic Water Partners Network
TBL	Triple Bottom Line
UN	United Nations
UNDESA	United Nations Department of Economic and Social Affairs
UNESCO	United Nations Education, Scientific and Cultural Organisation
UNICEF	United Nations Children's Fund
WASH	Sage Water, Sanitation and Hygiene
WBCSD	World Business Council for Sustainable Development
WCED	World Commission on Environment and Development
WHO	World Health Organisation
WSF4SB	Water Stewardship Framework for Small Business
WSJ	Wall Street Journal
WWD	World Water Day
WWF	World Wildlife Fund

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CHAPTER 1: INTRODUCTION AND BACKGROUND

1.1. SETTING THE CONTEXT OF THE STUDY

Water is one of the most essential ingredients for all business operations, and the lack thereof poses a serious material risk to future operations, which is being felt by all business organisations (Water Footprint Network, 2021). It is the 21st Century's most critical business issue (Roa, 2013) because water is essential for sustaining life and has no substitutes (Institute of Directors of South Africa, 2012). The fundamental reason why all businesses must prioritise water management; water is a resource they do not own but should urgently take ownership of by implementing water stewardship practices to minimise social and environmental risks, resulting in value creation for all water stakeholders (Roa, 2013).

Global water demand is presently 4,600 km^3 per year for all users, and by 2050 this will have increased by 20% to 30% (Boretti and Rosa, 2019), with global agricultural demand increasing by 60% by the year 2025 (Boretti and Rosa, 2019). The global population is expected to increase to between 9.4 and 10.2 billion people by the year 2050; this is an increase of 22% to 32% (Boretti and Rosa, 2019). These statistics make it clear that the demand for water will increase dramatically by 2050 due to population growth and economic growth, especially in developing countries, which includes South Africa (Boretti and Rosa, 2019). Water availability, however, is shrinking due to the depletion of natural water resources and the increase in pollution of water (Boretti and Rosa, 2019). It is thus essential to ensure that water demand does not exceed water availability (Boretti and Rosa, 2019).

Climate change affects water access worldwide as it causes severe droughts and flooding, with the increase in global temperatures being the main contributor to these problematic severe weather events (National Geographic Society, 2019b). The increasing global temperatures cause large-scale water evaporation, which impacts the water cycle, thus having dire consequences for everyday water access (National Geographic Society, 2019b).

To help combat the many water problems being faced locally and internationally, smaller businesses need to play a more prominent role (Fin24, 2016), and they should implement effective water stewardship practices. Water stewardship is defined as using water that is "socially and culturally equitable, environmentally sustainable and economically beneficial,

achieved through a stakeholder-inclusive process that includes both site- and catchment-based actions" (Alliance for Water Stewardship, 2021, p.1).

Water stewardship is one of the ways for businesses to manage their water use and balance it with the community's needs around them and with nature (Water Footprint Network, 2021). Its aim is to encourage and promote a shared responsibility amongst water users through dialogue and collaboration, to achieve greater water security (Newborne and Dalton, 2019). Greater water security is being achieved in terms of water quantity and quality and through water recycling, thus ensuring protection of the environment (Newborne and Dalton, 2019).

In South Africa, small businesses make up a large proportion of businesses, and if each small business can make a meaningful contribution to water stewardship, this will result in a meaningful contribution in the area of sustainability and saving a scarce resource (Fin24, 2016). Water is a complex and broad topic and is at the core of sustainable development; it is a critical resource needed by society, business and the environment and requires successful management (United Nations, 2021b) to ensure future availability.

1.2. WATER CHALLENGES

1.2.1. Water Pollution & Quality

All human use of water results in pollution, and 80% of this wastewater is being discharged or dumped into rivers, streams and oceans without being treated (Kammeyer, 2017; Denchak, 2022). This is causing widespread damage to the environment, destroying ecosystems and contaminating our critical scarce human water resources (Kammeyer, 2017; Denchak, 2022) required to sustain life. Water pollution is the contamination of water sources by various substances, making them unusable and unsafe (Harvard School of Public Health, 2013).

Pollution comes in many forms and includes hazardous chemicals, toxic poisons, plastics, household refuse and waste, effluent, sewage, bacteria and parasites (Harvard School of Public Health, 2013). All these forms of pollution eventually make their way into our water sources, such as rivers, oceans and underground water systems (Harvard School of Public Health, 2013). This unsafe water is considered a human health hazard which can result in disease outbreaks, illness and death (Denchak, 2022).

Businesses that operate in areas of highly polluted river basins and catchment areas face increased operational risks and costs due to having to treat the water to ensure its safety for use

in operations and for human consumption (Kammeyer, 2017). There is an onus on business to protect the environment and ensure they are not the main contributors to water pollution, and this can be achieved through creating good business practices to ensure restoration and rehabilitation of the water resources in the areas where they operate (Dugmore, 2021).

1.2.2. Water Scarcity and Water Stress

Water scarcity is becoming a growing worldwide concern and is analysed in terms of the concepts of shortages and stress (Kummu et al., 2016), with these concepts indicating difficulties in satisfying the water needs of a growing population as well as the overuse of the water resources (Kummu et al., 2016). Shortages refer to the impacts due to low availability of water per capita, and stress refers to the impacts as a result of high consumption or withdrawals relative to water availability (Kummu et al., 2016).

Scarcity is human-driven as it is "a function of the volume of human water consumption relative to the volume of water resources in a given area" (CEO Water Mandate, 2017, p.1). Whereas stress is a broader concept and is the "ability, or lack thereof, to meet human and ecological demand for fresh water" (CEO Water Mandate, 2017, p.1).

According to the United Nations, by 2025, it is estimated that 1.8 billion people will live in areas affected by "water scarcity, and two-thirds of the world's population will be living in water-stressed regions" (National Geographic Society, 2010, p.1). In the last century, water use has grown at a significantly higher rate than that of population growth, and the challenge faced is how to effectively conserve, manage and distribute these current water resources as we go into the future (National Geographic Society, 2010).

With this as background, it is clear that society (including business) needs to consider its short and long-term relationship with water, and the following sections discuss this crucial connection.

1.3. WATER'S RELEVANCE TO SOCIETY

1.3.1. Sustainability Challenges

The World Commission on Environment and Development (WCED) released the Brundtland Report (also known as 'Our Common Future') in 1987, and this report introduced the concept

of sustainable development (WCED, 1987). Sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987, p.43).

"Water is at the core of sustainable development and is critical for socio-economic development, healthy ecosystems and for human survival itself" (United Nations Department of Economic & Social Affairs (UNDESA), 2015, p.1). Water is a finite, irreplaceable resource and the most fundamental resource for human well-being. Only if it is managed well, will it be a renewable resource (UNDESA, 2015) and available for current and future generations.

"Water flows through the heart of sustainability challenges" (Fourie, 2012, p.1) and affects local economies and ecosystems because the quality of fresh water, its management and waste affect the welfare of billions of people (Fourie, 2012). Thus, the challenge of keeping water consumption at sustainable levels is going to become increasingly difficult in the future, mainly due to population pressure, changing water consumption patterns and climate change (Kummu et al., 2016). Although the world is covered by 70% water, only 2.5% of this water is freshwater, the balance being saline and ocean-based (National Geographic Society, 2010). This 2.5% freshwater is also not all easily accessible, which is a cause for concern because this is what must sustain a large, growing global population (National Geographic Society, 2010). According to the United Nations Secretary-General, "Water globally is threatened by the twin threats of increasing demand and withdrawals and the degradation of water sources and associated ecosystems due to climate change, pollution and other threats" (Blazhevska, 2020, p.1).

The United Nations developed the Sustainable Development Goals (SDGs) to address the concept of sustainable development, and these SDGs "are a blueprint for achieving a better and more sustainable future for all" (United Nations, 2022c). There are currently 17 SDGs, and they address many different challenges being experienced globally (United Nations, 2022c), where water is the "common currency which links nearly every SDG" (World Bank, 2016, p.1), with SDG 6: Clean Water and Sanitation, specifically dealing with water challenges (United Nations, 2022c), with its aim being to "ensure availability and sustainable management of water and sanitation for all" (United Nations, 2022c, p.1). Thus, water will play a critical role in the determination of the success of the SDGs (World Bank, 2016) and a better world for current and future generations.

1.3.2. Climate Change

The climate crisis is not a threat that is going to affect the future, it is already here and is causing devastating effects for people and the planet, and this will only get worse as global temperatures rise (World Wildlife Fund (WWF), 2022b), as a result of global warming being caused by human-induced climate change.

The increases in heatwaves, droughts and floods are driving many animal and plant species towards extinction, and extreme weather events are causing serious impacts which are becoming more difficult to manage, for example, water insecurity and food security (WWF, 2022a). The main driver of these extreme weather events is human-induced climate change (WWF, 2022a). As climate change continues to worsen and threaten our daily lives, it is expected that for every half-a-degree of global warming, the frequency and intensity of heat waves will increase (WWF, 2022a). However, when the 2°C limit of global warming is reached, heatwaves will reach critical tolerance thresholds, impacting our health, well-being and productivity (WWF, 2022b; UN-Water, 2020).

Water is considered "the primary medium through which we feel the effects of climate change" (UN-Water, 2020, p.1), with water availability becoming severely less due to these extreme climate change weather events (UN-Water, 2020). The increased incidents of floods threaten and destroy water as this results in an increased incidence in the contamination and quality of water sources (UN-Water, 2020), while heatwaves and droughts are exacerbating water scarcity, affecting availability and distribution (UN-Water, 2020). These water-related climate risks will filter through to the food and agricultural sectors as water demand increases with supply becoming erratic and uncertain (World Bank, 2016), having a negative impact on economic growth and food security, due to a spike in food prices, aggravating poverty and inequality (World Bank, 2016). Thus, it is clear that climate change has a substantial impact on the supply of water resources as well as affecting its demand (UN-Water, 2010).

"Water is the lifeblood of the planet, and the state of this resource affects all natural, social and economic systems" (UN-Water, 2010, p.2), and thus, water-related climate change adaptation will play a pivotal role in achieving sustainable development (UN-Water, 2010).

1.3.3. Water Crisis

According to the Word Economic Forum's Global Risk Report 2021, the water crisis has been one of the top global risk factors impacting society since 2012 (World Economic Forum, 2021). Water is essential for life; however, 771 million people all over the world do not have access to water (Water.Org, 2021). The growing population, rapidly growing global economy and overpopulation around the world are placing a large strain on these scarce water resources, which will constrain socio-economic progress in the future (United Nations, 2021a).

"The water crisis is a health crisis because approximately 1 million people die each year from water, sanitation and hygiene-related diseases" (Water.Org, 2021, p.1), and, tragically, "a child dies every two minutes" (Water.Org, 2021, p.1) from a water-related disease (Water.Org, 2021). Access to clean, safe water and sanitation is a precondition to life and is considered a fundamental human right (United Nations, 2021a), and it can contribute to improved health and life for many people around the world (Water.Org, 2021).

The water crisis is receiving worldwide attention from many different stakeholders, and thus businesses are feeling the pressure financially and reputationally to ensure that they act in a responsible manner in the communities in which they operate as well as towards the environment that they rely on (Alliance for Water Stewardship, 2022b).

In 2016 the World Economic Forum considered the water crisis to be one of the top global risks for the next ten years (World Economic Forum, 2016), and according to the United Nations, the water crisis is still a challenge in the 21st Century (United Nations, 2022d), where its risk to human well-being and business operations is of great concern.

There are many serious challenges facing society, including businesses in respect of a continuous, reliable water supply going into the future. It is important that these are addressed in water stewardship practices because water plays an essential part in all business operations, where its relevance to business is discussed in the next sections.

1.4. WATER'S RELEVANCE TO BUSINESS

1.4.1. Water Risk

Water risk is the possibility of an entity, like a business, experiencing any number of water-related challenges, such as water scarcity, water stress, drought, flooding or infrastructure

deterioration (CEO Water Mandate, 2017). Water risks will be felt and interpreted differently per sector of society and business, even when they experience the same degree of water-related challenges (CEO Water Mandate, 2017). The extent of the water-related risk will be a function of the likelihood that the specific water challenge occurs and the severity of the impact of the water challenge (CEO Water Mandate, 2017).

Water risks for business are the ways water-related challenges can undermine business viability and continuity, categorised into three types (CEO Water Mandate, 2017). These three risk types are (1) *physical*, which refers to the quantity, availability and quality of the actual water, (2) *regulatory*, which refers to the policies and regulations of public water and (3) *reputational*, which refers to how stakeholders perceive business in terms of sustainable efforts to protect water (CEO Water Mandate, 2017).

Water risk for business can also be divided into two further categories, which assist with getting to the source of the risk and therefore guide what type of mitigation response will the appropriate (CEO Water Mandate, 2017). These two categories are (1) risk due to operations, products and services and (2) risk due to watershed/basin conditions (CEO Water Mandate, 2017).

Thus, in order for businesses to gain insight into water risks they may face now and, in the future, they need to have a good understanding of the various water components. These water components include (1) water stress, (2) water quality and (3) water scarcity (availability and accessibility) (CEO Water Mandate, 2017). Only once these are understood can water risks effectively be mitigated, reducing damages and offering adequate protection of this scarce resource, water (CEO Water Mandate, 2017).

1.4.2. Diagrammatical Representation of Water Scarcity, Water Stress and Water Risk

In order to avoid conflicting interpretations of the key water-related terms of water scarcity, water stress and water risk, as discussed in the previous sections, the relationship and meaning of these terms are diagrammatically represented in Figure 1. Understanding their interconnected relationship is essential to ensure successful evolving methodologies on water stewardship initiatives, thus providing clarity for all water users to make water stewardship implementation and practices successful (CEO Water Mandate, 2017).

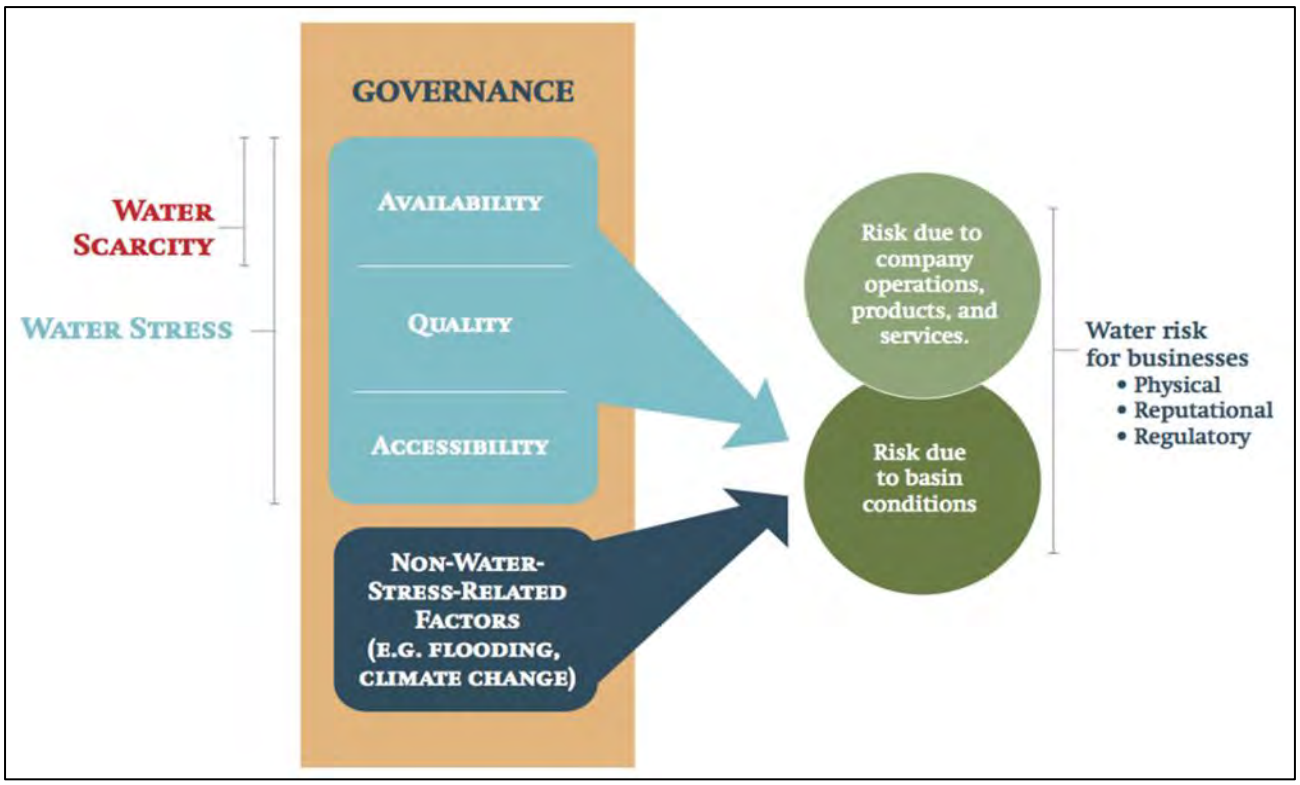


Figure 1: Relationship between Water Scarcity, Water Stress and Water Risk (Source: CEO Water Mandate, 2017, p.1).

1.4.3. Environment and Business Risk

In a 2009 Globe Scan and Circle of Blue survey, "people around the world identify water issues as the most serious sustainability challenges facing the planet" (CEO Water Mandate, 2010, p.1). The data collected from around the world suggests that companies have a very clear role to play and an obligation to find solutions to the myriad of water challenges being faced globally (CEO Water Mandate, 2010; Tobin, 2016). The results of this survey are presented in Figure 2, where they show the significance and importance of water and that businesses have an important role in protecting water resources.

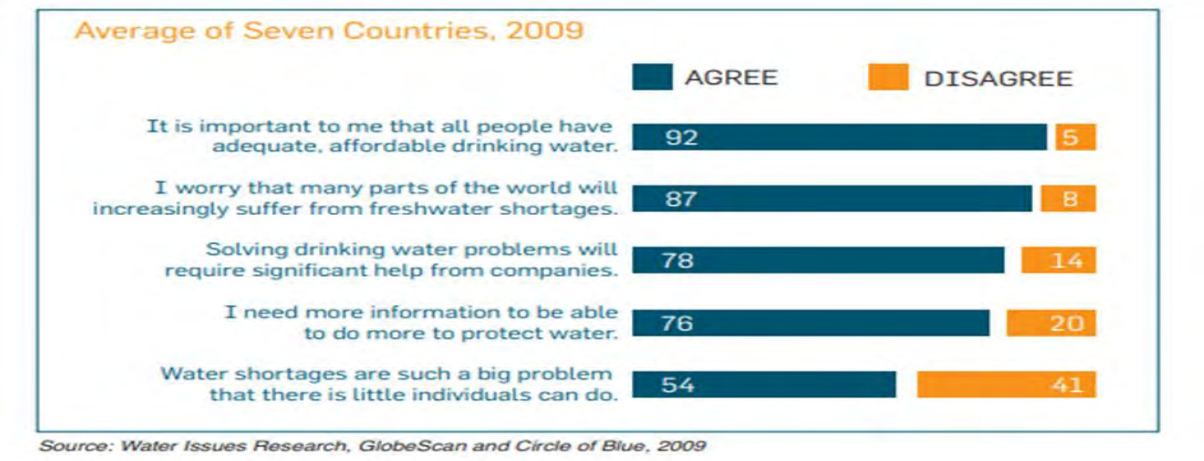


Figure 2: Survey Results of People's Attitudes towards Water Issues (Sources: CEO Water Mandate, 2010, p.10; Tobin, 2016, p.1).

All businesses are affected by varying degrees of water scarcity, water stress and water risk, yet smaller businesses seem to be more at risk from their negative impacts than larger corporations.

1.5. WATER'S RELEVANCE TO SMALL BUSINESS

1.5.1. Small Business

In South Africa, more than 98% of businesses are small and medium enterprises (SMEs), which "employ between 50% and 60% of the country's workforce and are also responsible for a quarter of the job growth in the private sector" (Kalidas, Magwentshu and Rajagopaul, 2020, p.1). This sector is thus a critical part of the South African economy (Kalidas, Magwentshu and Rajagopaul, 2020).

Competition for water availability is on the rise, and climate change exacerbates the challenge businesses face, which continuously creates new risks for businesses to contend with, such as financial and reputational risks (World Business Council for Sustainable Development (WBCSD), 2021; CEO Water Mandate, 2010). These risks disrupt business operations and have a greater impact on small businesses (WBCSD, 2021). Investing in water stewardship practices creates opportunities for businesses leading to operational efficiencies by managing their water use, thus creating a sustainable competitive advantage, which is essential for the survival of a small business (WBCSD, 2021).

Small businesses are neglected when international frameworks and standards are created. They are often complex and impractical for small businesses to implement in their daily operations to advance their water stewardship practices (Water Footprint Network, 2021). It is thus essential to address this issue and create a framework specifically tailored to the needs of small businesses. In South Africa, small businesses make up a large proportion of businesses, and if each small business can make a meaningful contribution to water stewardship, this will result in a meaningful contribution in the area of sustainability and saving a scarce resource (Fin24, 2016).

1.5.2. Definition of Small Business

In terms of the National Small Enterprise Act, 1996 (Act No. 102 of 1996) as amended, a small business is defined as follows:

> ***"Small enterprise"*** *means a separate and distinct business entity, together with its branches and subsidiaries, if any, including cooperative enterprises, managed by one owner or more predominantly carried on in any sector or subsector of the economy mentioned in column 1 of the Schedule and classified as a micro, a small or a medium enterprise by satisfying the criteria mentioned in columns 3 and 4 of the Schedule.*

SCHEDULE 1

The new National Small Enterprise Act thresholds for defining enterprise size classes by sector, using two proxies

Column 1	Column 2	Column 3	Column 4
Sectors or sub-sectors in accordance with the Standard Industrial Classification	Size or class of enterprise	Total full-time equivalent of paid employees	Total annual turnover
Agriculture	Medium	51 - 250	≤ 35,0 million
	Small	11- 50	≤ 17,0 million
	Micro	0 – 10	≤ 7,0 million
Mining and Quarrying	Medium	51 - 250	≤ 210,0 million
	Small	11- 50	≤ 50,0 million
	Micro	0 – 10	≤ 15,0 million
Manufacturing	Medium	51 - 250	≤ 170,0 million
	Small	11- 50	≤ 50,0 million
	Micro	0 – 10	≤ 10,0 million
Electricity, Gas and Water	Medium	51 - 250	≤ 180,0 million
	Small	11- 50	≤ 60,0 million
	Micro	0- 10	≤ 10,0 million
Construction	Medium	51 - 250	≤ 170,0 million
	Small	11- 50	≤ 75,0 million
	Micro	0- 10	≤ 10,0 million
Retail, motor trade and repair services.	Medium	51 - 250	≤ 80,0 million
	Small	11- 50	≤ 25,0 million
	Micro	0 – 10	≤ 7,5 million
Wholesale	Medium	51 - 250	≤ 220,0 million
	Small	11- 50	≤ 80,0 million
	Micro	0 – 10	≤ 20,0 million
Catering, Accommodation and other Trade	Medium	51 - 250	≤ 40,0 million
	Small	11- 50	≤ 15,0 million
	Micro	0 – 10	≤ 5,0 million
Transport, Storage and Communications	Medium	51 - 250	≤ 140,0 million
	Small	11- 50	≤ 45,0 million
	Micro	0 – 10	≤ 7,5 million
Finance and Business Services	Medium	51 - 250	≤ 85,0 million
	Small	11- 50	≤ 35,0 million
	Micro	0- 10	≤ 7,5 million
Community, Social and Personal Services	Medium	51 - 250	≤ 70,0 million
	Small	11- 50	≤ 22,0 million
	Micro	0 – 10	≤ 5,0 million

Figure 3: Revised Schedule 1 of the National Definition of Small Business Enterprise in South Africa (Source: South Africa, National Small Enterprise Act, 1996, Revised Schedule 1).

Small business, in terms of this study, will be based on business size and defined by the "total full-time equivalent of paid employees" (Business Tech, 2019, p.1), per Column 3 of Schedule 1, and includes the Micro businesses, thus where the employees should not exceed 50 employees (Business Tech, 2019).

According to the CEO Water Mandate (2014), the main factors to determine whether a business is an SME, are the number of employees, turnover or balance sheet total. This agrees with the definition of small business in Schedule 1 of the Act (South Africa, National Small Enterprise Act, 1996, Revised Schedule 1).

1.5.3. Makhanda's Relevance to Small Business and Water

Makhanda, previously known as Grahamstown up until 29 June 2018 (News24, 2018), is a small city situated in the Eastern Cape Province of South Africa (Hoefnagels, Irvine and Memela, 2022). Makhanda has a population of approximately 140 000 people (Parliament of the Republic of South Africa, 2022) and is home to many small business enterprises.

This city is under threat due to failing and deteriorating infrastructure, which is resulting in basic services (Hoefnagels, Irvine and Memela, 2022) not being consistently supplied to the local businesses and the community, by the local Makana municipality. (It should be noted that the name of the municipality is spelt differently to the name of the town. Makana is the correct spelling for the municipality, whereas Makhanda is the correct spelling for the town).

Two of these inconsistent basic municipal services are the intermittent and unreliable water supply, which includes quantity and quality problems, as well as ineffective sanitation. The crippling drought that the area has experienced over the past few years is another factor hampering the effective supply of essential water services and aggravating the water crisis already being experienced in the city (Makana Municipality, 2022).

According to Makana municipality, the water situation in Makhanda is "critical" (Dyongman, 2021, p.1), and due to the water scarcity being experienced, water is being shut off every second day for all for the reservoirs to fill up (Dyongman, 2021), and water rationing is being implemented, restricting consumption to 50 litres per person per day (Makana Municipality, 2022). This is to try and ensure an equitable supply of water; however, this is not a true reflection of the situation, because some areas of the city can be without water for days or even weeks (Dyongman, 2021), mainly due to infrastructure breakdowns and leaks. The local residents and businesses are thus forced to buy water from other suppliers (Dyongman, 2021) in order to survive, thus placing a financial strain on residents and businesses.

The city is also facing a health crisis due to raw sewerage flowing into the rivers and streams, polluting the water systems around Makhanda (Sgqolana, 2022); this is a result of a dysfunctional wastewater treatment plant and the municipality's inability to deal with this situation. This crisis has been an ongoing situation since 2014 (Sgqolana, 2022). Independent water testing revealed that E. coli counts in the water pose a danger to the health and well-being of the local community (Sgqolana, 2022) and is an environmental and economic catastrophe waiting to happen (Sgqolana, 2022).

The ongoing drought and the inability of Makana municipality to provide the basic essential services of water and sanitation to the city is a very real threat to the city, its community and the local economy of Makhanda (Hoefnagels, Irvine and Memela, 2022). These many water challenges are experienced daily by small business in Makhanda, hence the reason why Makhanda was chosen as the location for assessing the suitability and practicality of a water stewardship framework for small business.

Thus, it is clear that small businesses make up a large proportion of businesses in South Africa, and it is these small businesses that need to become actively involved in promoting water stewardship practices to make them successful and save this scarce resource.

1.6. WATER STEWARDSHIP

Water stewardship is one of the ways a business can manage the complexities of balancing its own water use with the needs of society and the environment (Water Footprint Network, 2021). It is about taking care of something that one does not own and making wise use of what one has (WWF, 2022c). It should be seen as a long-term journey with the main aim of improving water use, reducing water impacts and acting with others on bigger water issues (WWF, 2022c) for the benefit of all stakeholders. Helping business to manage risks and optimise opportunities assists in facilitating business continuity and growth.

1.7. PROBLEM STATEMENT AND PROPOSED BENEFITS OF THIS STUDY

Water stewardship is a relatively new concept, with limited academic research available, especially for small businesses (e.g. Cristofoletti, 2017; Fraser and Kunz, 2018; Rozza et al., 2013; Sojamo, 2015; Walsh and Dowding, 2012). This is evident from reviewing the literature, which indicates that within the last decade, there have been increased efforts by the United Nations and larger industries, such as mining and agriculture, to promote the sustainable development of water (United Nations, 2021a), and to implement practices towards effective water stewardship (Mazzoni, 2019). An evolution is happening, from the sustainable development of water resources and practices (Aqua Tech, 2019), to corporate water stewardship practices, where it should be seen as an opportunity to create value (WWF, 2021) and enhance the protection of the finite resource of water making a contributing to the area of sustainability. However, the lack of support for small businesses in managing the important

issues in the area of sustainability, which includes water stewardship, needs to be addressed and this research plans to add value for small businesses to assist them in being proactive in achieving a triple bottom line approach by implementing water stewardship practices.

1.8. RESEARCH STUDY AIMS AND OBJECTIVES

This research will focus specifically on water stewardship as the tool for the management of the natural resource of water. It will analyse the water stewardship frameworks identified in the literature and attempt to extract and develop a suitable framework for use by small businesses to assist them in creating opportunities for innovation and a sustainable competitive advantage (Sarni, 2017).

1.8.1. Aim of the research study

This research aims to develop an approach-specific water stewardship framework for small businesses.

1.8.2. Objectives of the research study

The objectives identified are:

1. To develop a draft water stewardship framework for small businesses based on the literature.
2. To assess the suitability and practicality of the draft framework with small businesses in Makhanda (South Africa).
3. To refine and recommend a water stewardship framework for adoption and implementation by small businesses that can facilitate their sustainable competitive advantage.

1.9. CONCLUSION

Climate change impacts are being felt through water and pose a very real and direct threat to businesses and the communities in which they operate (CEO Water Mandate, 2021c), as well as many other important stakeholders. Businesses around the world are recognising the value of water and the financial impacts it will have as a result of reduced water access (WWF, 2022b) due to the effects of water scarcity and water quality (CEO Water Mandate, 2021c).

Water needs to be used wisely, and in the long term, water stewardship will assist in improving water use and reducing water impacts, simply by taking care of a natural resource we do not own (WWF, 2022b). This study aims to add value to small businesses in the area of sustainability, by developing a water stewardship framework to assist them in looking after a scarce resource and demonstrating how this change can result in profit maximisation achieved by implementing a triple bottom line approach in daily operations.

CHAPTER 2: LITERATURE REVIEW AND UNDERPINNING THEORY

This chapter begins with a discussion on water stewardship to provide an understanding of what it means and how it is defined. Section 2.2 discusses the impact water stewardship and water have on the areas of sustainability and sustainable water management, including the challenges and opportunities for small business to implement water stewardship practices, providing the foundation on the importance of water stewardship. Section 2.3 discusses the importance of stakeholders for the successful implementation of water stewardship practices to protect water resources for business organisations and future generations. Section 2.4 reviews the water stewardship frameworks currently available in the literature and critically analyses these to be able to extract and use the best element to help assist in developing a water stewardship framework for small business. The chapter concludes with Section 2.5, by presenting the underpinning theory, the Natural Resource-Based View, and explains how it is linked to water stewardship.

2.1. WATER STEWARDSHIP

Water stewardship is defined as using water that is "socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that includes both site- and catchment-based actions" (Alliance for Water Stewardship, 2021, p.1).

This is the most widely used definition of water stewardship, due to its inclusion of "stakeholders" in the process of water stewardship and the taking into consideration of "local" watershed factors (Waldhuetter, 2022). It is these two factors, (1) stakeholders and (2) local, which move the definition away from simply being the traditional management of water resources to water stewardship practices that make a connection with businesses (Waldhuetter, 2022).

Water is a shared resource and, as such, has a multitude of diverse stakeholders which use it (Waldhuetter, 2022). There is no single actor that is solely responsible or contributed to all the water challenges; as such, no single actor can solve the water challenges (Waldhuetter, 2022). Thus businesses must involve local stakeholders in addressing water-related challenges and risks, which will result in a better understanding of local water problems and assist in presenting opportunities to work collectively towards successful, impactful solutions to the benefit of the local community (Waldhuetter, 2022).

Many water challenges and the corresponding risks associated with these challenges are local to the areas in which the businesses operate; thus, it is important for businesses to consider and implement actions as informed by their local context and operational aspects (Waldhuetter, 2022). The water challenges will also be diverse in nature to each business, and this diversity requires different responses to address the problems and challenges based on the local context in order for these to have a meaningful impact on the businesses (Waldhuetter, 2022).

Water Stewardship is the way forward for businesses to manage their water use and balance it with the community's needs around them and nature (Water Footprint Network, 2021). It aims to encourage and promote a shared responsibility amongst water users in water management through dialogue and collaboration (Water Footprint Network, 2021). The end result is to achieve greater water security in terms of water quantity and quality, and through water recycling, ensuring the protection of the environment and natural resources (Newborne and Dalton, 2019).

2.2. SUSTAINABILITY AND SUSTAINABLE WATER MANAGEMENT

Water issues and factors which directly and indirectly affect water, such as pollution or climate change, are top concerns for businesses; this is due to the growing emphasis being placed on the protection of the environment and its natural resources (Waldhuetter, 2022). “Water is at the heart of adaptation to climate change” (United Nations Department of Economic & Social Affairs, 2015, p.1) and the critical link between climate, human society, the environment and economic activity. Sustainability and Sustainable Water Management are broad concepts with aspirational goals and mean different things to different people (CEO Water Mandate, 2010) but are essential to help guide businesses in their efforts to protect scarce resources like water.

2.2.1. Sustainability

Sustainability is a complex concept and does not have a universally accepted and agreed-upon definition, the most widely used term being sustainable development, which is referred to in the 1987 Brundtland Report (WCED, 1987; Emas, 2015). This term is used as the benchmark from which various definitions have been derived over the years (Vojnovic, 1995; Emas, 2015). Sustainable development is defined as “development that meets the needs of the present

without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987, p.43).

The key principle of sustainable development is the integration of environmental, social and economic concerns into decision-making processes (Emas, 2015) in order to move businesses toward development which is sustainable, recognising that our natural resources are finite and cannot be replaced (Emas, 2015). The planet has limited natural resources and also needs the ability to regenerate these natural resources to be able to provide for all the people on the planet now and in the future (Emas, 2015; McCarthy and Sanchez, 2019).

2.2.2. The Three Pillars of Sustainability

"Environmental, social and economic factors are referred to as the three pillars of sustainability" (Circular Ecology, 2021, p.1) and together known as the triple bottom line performance of a business organisation or the 3Ps of sustainability, with the 3Ps being people, profit and planet (Circular Ecology, 2021).

The triple bottom line, made famous by John Elkington (2018), is a sustainability framework which examines and measures a company's environment, social and economic impacts over a period of time, thus taking into account the full cost of doing business (Elkington, 2018). It de-prioritises the importance of financial performance only for decision-making and profit maximisation and emphasises the need for non-financial performance for profit maximisation (Miller, 2020), ensuring that by doing the right thing, it is also possible to make a profit (Miller, 2020).

In order to achieve true sustainability, however, there needs to be a balance and equal harmony in the economic, environmental and social factors. This is illustrated by three intersecting circles, with overall sustainability at the centre (Purvis, Mao and Robinson, 2019). See Figure 4, the Three Pillars of Sustainability.

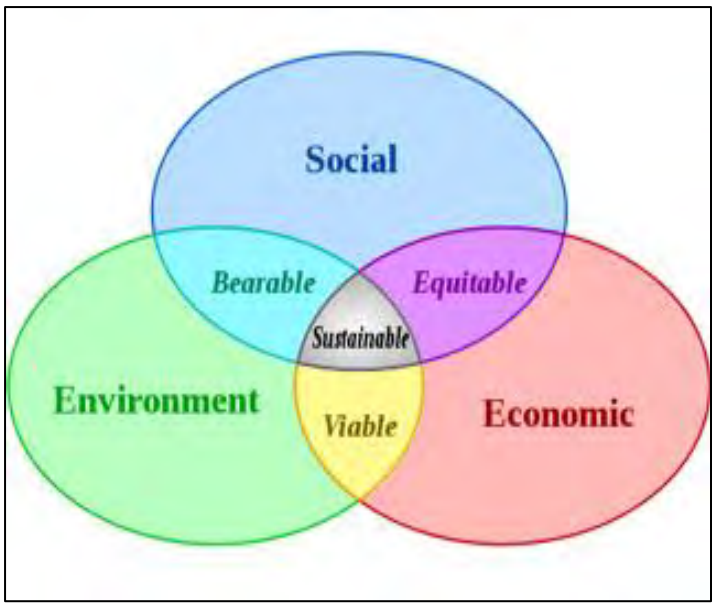


Figure 4: The Three Pillars of Sustainability (Source: Petrisor and Petrisor, 2014, p.180)

The three pillars of sustainability have the following meaning:

1. *Social* (People), refers to the positive and negative impacts a business has on its stakeholders (Kraaijenbrink, 2019).
2. *Environmental* (Planet), refers to the positive and negative impacts business has on its natural environment (Kraaijenbrink, 2019).
3. *Economy* (Profit), refers to the positive and negative impacts a business has on the local, national and international economy (Kraaijenbrink, 2019).

Given this triple-pillar approach to managing impacts, risks and opportunities, it is often the underlying approach for current water management and water stewardship frameworks. These are discussed in detail in the following sections, keeping in mind this underpinning sustainability philosophy.

2.2.3. Sustainable Water Management

Sustainable Water Management (SWM) is defined by the CEO Water Mandate (2010, p.1) as "[t]he management of water resources that holistically address equity, economy, and the environment in a way that maintains the supply and quality of water for a variety of needs over the long term and ensures meaningful participation by all affected stakeholders".

This means that water should be used in ways that meet current, ecological, social, and economic needs without compromising the ability to meet these same needs in the future (Stewart, 2020). SWM is a broad concept with four broad, aspirational goals, which can mean different things to different people and businesses, but essentially it is the end goal that businesses wish to achieve by implementing practices in pursuit of these goals (CEO Water Mandate, 2010) to mitigate water-related risks being faced. One such practice for managing water resources could be water stewardship (Strategic Water Partners Network (SWPN), 2020), where good water stewardship practices can result in benefits for the environment, society and business.

2.2.3.(a) The Four Domains of Sustainable Water Management

SWM can be thought of as the state when four domains of sustainability are effectively implemented, these domains being: (1) social sustainability, (2) environmental sustainability, (3) economic sustainability and (4) institutional sustainability (CEO Water Mandate, 2010). These are depicted in Figure 5.

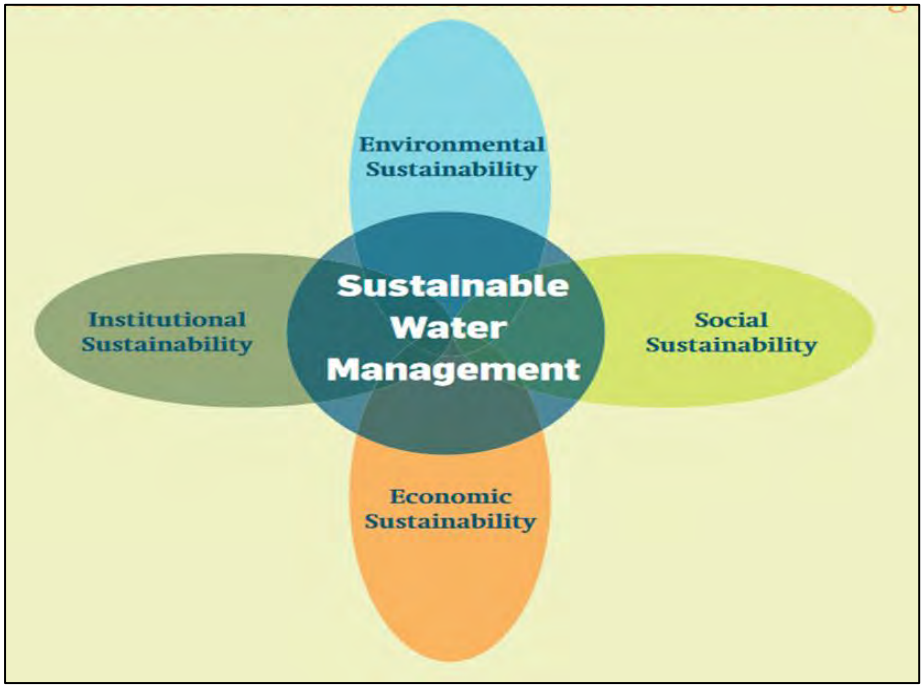


Figure 5: The Four Domains of Sustainable Water Management (Source: CEO Water Mandate, 2010, p.22).

The four domains of sustainability, as referred to by the CEO Water Mandate (2010), in connection with sustainable water management, have the following meanings (see Figure 5):

1. *Social sustainability* refers to all humans having equitable and adequate access to water, including affordable water, to ensure that their health and livelihood requirements are met. It also refers to citizens and communities working together to ensure they play a meaningful role in water governance and decision-making (CEO Water Mandate, 2010).

2. *Environmental sustainability* refers to water use and management that does not compromise biodiversity, the functioning of habitats or ecological and hydrological processes which are essential for society (CEO Water Mandate, 2010).

3. *Economic sustainability* refers to water management being affordable and cost-effective and where the economic costs and financial risk are understood, minimised and balanced in a transparent and socially acceptable way (CEO Water Mandate, 2010).

4. *Institutional sustainability* refers to the institutions which are charged with water management, and these institutions should have sufficient resources and social legitimacy to be able to function in the long term (CEO Water Mandate, 2010).

The approach above nicely mirrors the considerations of the three sustainability pillars (as discussed in Section 2.2.2), bringing the necessary alignment between these concepts. The addition of the fourth domain, *institutional sustainability*, in this sustainable water management approach highlights the importance of organisational considerations for adequate implementation. The future depends on businesses transforming their operations and embracing and implementing sustainable approaches to looking after scarce resources, specifically water. They need to look at all the factors that affect their bottom line, not just profit and respond to these holistically to embrace sustainability in the long term.

Water is a natural, scarce resource and essential for business operations, it should be seen as vital to protect this resource to prevent disruption to business operations (Newborn and Dalton, 2016). Thus, businesses should aim to improve their water management by adopting water stewardship standards which reflect responsible water management, and respect the shared use of water between water users (Newborn and Dalton, 2016).

2.2.4. Water, Sustainability and Sustainable Water

Long-term sustainability is a specific objective of water stewardship, in which businesses involve other stakeholders, thus taking into consideration the needs of all different water users, including competing water users (Newborn and Dalton, 2016). Thus, it is essential to balance the water supply and the water demand, especially due to the constraints of natural water availability and the impacts of climate change on availably and quality (Hu, Cheng and Hu, 2011). This will assist in increasing water use efficiency and ensure sustainable water management (Hu, Cheng and Hu, 2011) and use, which is vital for all humanity today and essential for building the future (United Nations-Water, 2015).

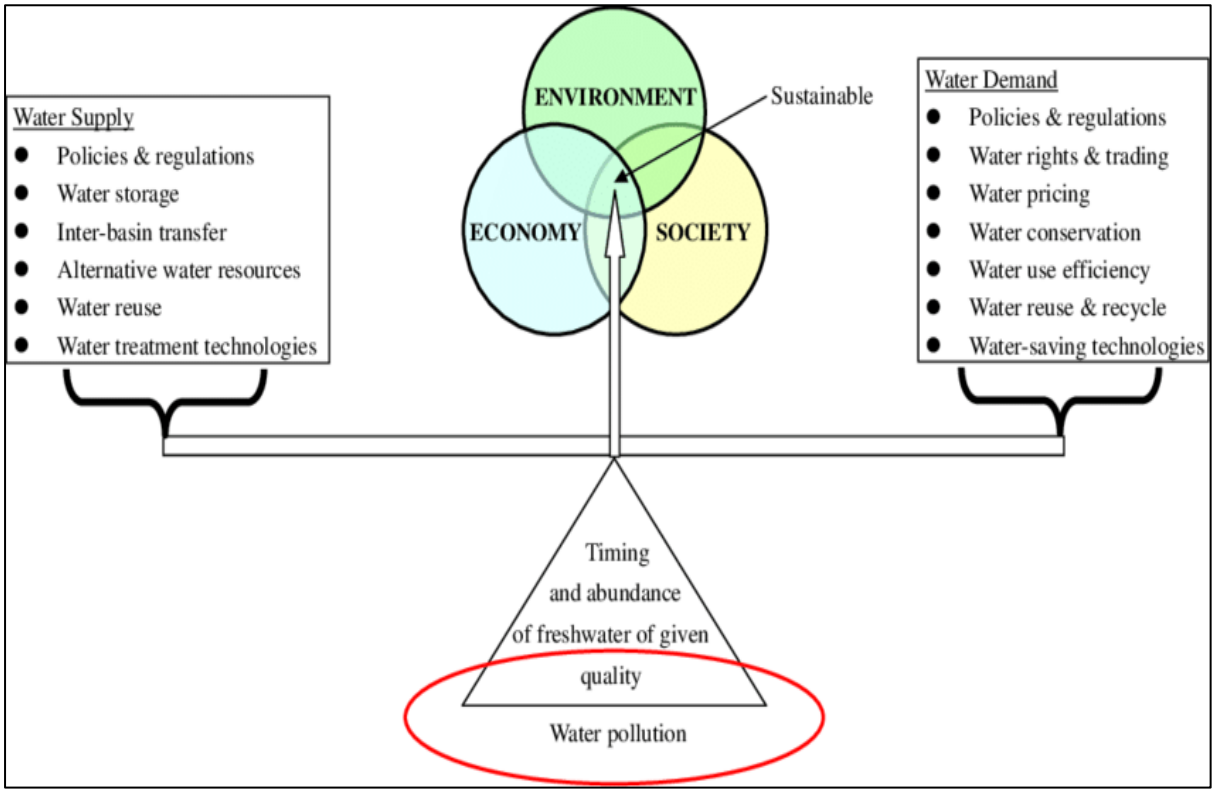


Figure 6: Schematic illustration for sustainable water resources management (Source: Hu, Cheng and Hu, 2011, p.21).

This illustrates the importance of balancing water demand and water supply with sustainable water management practices to ensure a sustainable balance is achieved for a scarce resource like water. Triple bottom line considerations are important for managing water supply and water demand concerns, which in turn is an important underpinning for responsible water stewardship management.

2.3. IMPORTANCE OF STAKEHOLDERS FOR WATER STEWARDSHIP

Stakeholders are organisations and individuals that can significantly be affected by an organisation's activities and whose actions affect the ability of an organisation to successfully implement its strategies and achieve objectives (CEO Water Mandate, 2014). Stakeholders include but are not limited to employees, shareholders, suppliers, local communities, society and the environment (CEO Water Mandate, 2014). Stakeholders are essential to the success of water stewardship practices because water stewardship revolves around a collaborative and multi-stakeholder approach, aiming to achieve social, environmental and economic benefits (Water Footprint Network, 2021). Stakeholder expectations of the company's management of scarce water resources also have the potential to expose companies to financial risk based on perceptions of inefficient or inequitable management of water resources in business operations (CEO Water Mandate, 2022d), hence the importance of effective collaboration with stakeholders.

2.4. CRITICAL REVIEW OF WATER STEWARDSHIP MANAGEMENT APPROACHES – SOME KEY FRAMEWORKS

There are various approaches for how organisations can go about managing water stewardship, although many of these have found adoption mainly in larger corporates and businesses. This section outlines some of the prominent approaches and frameworks on water stewardship.

2.4.1. CEO Water Mandate

The CEO Water Mandate was designed to be a public-private initiative to engage a mass of companies worldwide willing to partner with other stakeholders such as the United Nations, governments, society and others, in a serious effort to address the global water crisis and come up with solutions to maximise the impact (CEO Water Mandate, 2011). It is a voluntary and aspirational initiative, seeking to build an international movement of business leaders and learners (multi-stakeholder partnerships), who are committed to implementing the framework to address worldwide water challenges (CEO Water Mandate, 2011) and advancing water stewardship. Thus, making it a unique platform to share best practices in water stewardship.

The CEO Water Mandate (2021a) is a platform where businesses can commit to six key elements of water stewardship. These six elements are (1) Direct Operations, (2) Supply Chain

and Watershed Management, (3) Collective Action, (4) Public Policy, (5) Community Engagement, and (6) Transparency (CEO Water Mandate, 2021a). This framework is depicted in Figure 7. Businesses have to commit to making progress in these six specific areas, by following and accomplishing the criteria specified for each of these six areas, thus demonstrating they have accomplished the outcomes set towards improvement in water stewardship practices. This includes also making a meaningful contribution to the overall work of the Mandate. Businesses are required to report annually on their progress in these six areas, to remain endorsed by the Mandate (CEO Water Mandate, 2021a).

Figure 7: The CEO Water Mandate Six-Step Framework (Source: (CEO Water Mandate, 2022e, p.2).

The six-step approach for the framework, makes it seem like a concise framework appealing to small businesses. However, not all six steps will be suitable for implementation by small business as they are too onerous, and the small business may not have the technical or staff expertise to assist with the implementation in certain areas.

Only 228 companies worldwide (by 2022) have endorsed this Mandate, with only five from South Africa: Eskom, Woolworths Holdings, Sasol Ltd, Nedbank Group, and Uthingo Environment Services (CEO Water Mandate, 2021b). These large, well-established businesses have found value in signing the Mandate; thus, valuable insights will be obtained from this Mandate to be used and applied to a small business framework.

When one considers that globally there are approximately 668,000 large companies (Statista, 2021), then a commitment by only 228 worldwide large businesses to endorse this Mandate (CEO Water Mandate, 2021b) demonstrates that water stewardship implementation and reporting can even be complex for large businesses. A downfall is that only 228 companies have access to the worldwide best practices platform to advance water stewardship initiatives and protect the world's scarce water resources. This demonstrates that small businesses will

rightly be left behind in water stewardship initiatives, making it even more difficult for them to be involved and make a difference.

The CEO Water Mandate framework, however, can provide a solid foundation to guide the development of small business water stewardship management practices, encouraging them to make a difference and contribute to its success by encouraging benchmark standards to be established.

2.4.2. Alliance for Water Stewardship

The Alliance for Water Stewardship (AWS) (2021) is an international water stewardship standard for major water users. Its mission is to "promote responsible water stewardship" (WWF, 2013, p.17). The standard assists businesses in understanding their water use and its impacts on society and the environment and works collaboratively and transparently to ensure sustainable water management in catchment areas.

The AWS Standard is a five-step approach which aims to assist business in achieving five outcomes for their site and physical scope in order to attain best practices (AWS, 2021). The five-step approach is as follows: (1) Gather and understand water-related data, (2) Commit to water stewardship and create a water stewardship plan, (3) Implement the plan, (4) Evaluate performance and (5) Communicate and disclose progress with stakeholder (AWS, 2022a). Each of these five steps has certain criteria and indicators that need to be met and fulfilled to achieve improved performance and the five intended outcomes of the AWS standard (AWS, 2022a). This framework is depicted in Figure 8.

The five outcomes intended to be achieved by the AWS standard are: (1) Good/Improved Water Governance, (2) Sustainable Water Balance, (3) Good Water Quality Status, (4) Healthy status of important water-related areas, and (5) Safe Water, Sanitation and Hygiene for all (WASH) (AWS, 2021). These outcomes have certain criteria which should be followed and accomplished, in order to demonstrate the improvements in water stewardship practices. Any businesses making these claims are audited and certified by credible, independent third-party assessors (AWS, 2022a).

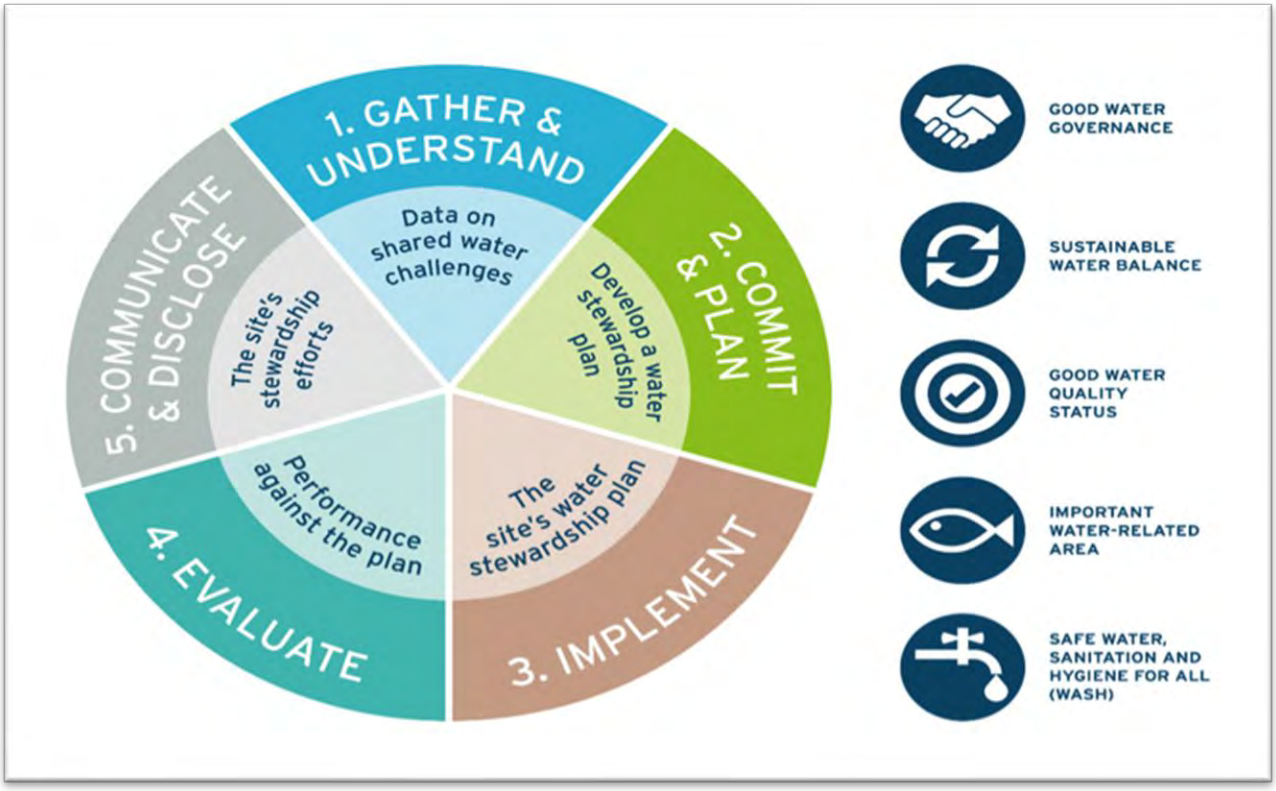


Figure 8: The AWS Five-Step Approach to Water Stewardship, with Five Intended Outcomes (Source: AWS, 2022a, p.1).

This five-step approach, with specific intended outcomes, makes for a user-friendly, simple format approach, appealing to small businesses, however not all five steps and outcomes will be suitable for small business as they are too onerous, and the small business, may not have the technical or staff expertise, or finances to assist with the implementation in certain external areas. This standard is a similar approach to the CEO Water Mandate's six-step approach.

WASH refers to safe water, sanitation and hygiene and is one of the goals of SDG6 and an important initiative of the United Nations Children's Fund (UNICEF) and the World Health Organisation (WHO) (UNICEF, 2022; WHO, 2022). The aim is to provide WASH to millions of vulnerable people in need worldwide, which is crucial for human health and well-being, including the Planet, but also a prerequisite that contributes to livelihoods (WHO, 2022).

The AWS standard is aimed at major water users, for example, agriculture or production (AWS, 2021), which are generally large businesses, but can apply to all industrial sectors irrespective of the size and complexity of their business operations. As a global framework, allowing for third-party certification, it offers knowledge, expertise and many benefits at a corporate level (AWS, 2022a), which can be of great value to assist in developing and guiding a small business

framework, assisting with its credibility. The knowledge and expertise of the AWS (2021) standard, added to the benefits and knowledge of the CEO Water Mandate framework (2021a), can only strengthen a small business framework.

2.4.3. World Wildlife Fund (WWF)

The World Wildlife Fund (WWF) (2018) consists of a water stewardship ladder of a five-step approach to guide businesses on a successful water stewardship journey. These steps are as follows: (1) Water Awareness, (2) Knowledge of Impact, (3) Internal Action, (4) Collective Action and (5) Influencing Governance. The first three steps (1 to 3) are internally focused on the business operations, and these steps are used to start the groundwork and lay the foundation for businesses to understand and take action on their physical, regulatory and reputational water risks (WWF, 2021). The last two steps (4 to 5) focus externally "beyond the fence line" (WWF, 2018, p.11) and are important to assist businesses in managing their water risks more widely and making a difference in the area of sustainability (WWF, 2021). See Figure 9 hereunder, depicting the framework.

Figure 9: The WWF Five-Step Water Stewardship Ladder (Source: WWF, 2018, p.11).

The steps help provide companies and organisations with a simple definition to understand their various water-related activities in each of the five steps but note that for each step, there is more detailed comprehensive action required to ensure the step is executed. The steps overlap so as to be fluid and iterative and not contained in the step. Each company will prioritise a different step in the ladder depending on the nature of their local water as well as their risk level depending on the sector in which they operate. This easy-to-follow, step-wise approach seems relevant for small businesses, who often struggle to adapt to new business realities (Klapper and Beinker, 2017), especially in the area of sustainability and to become compliant and remain compliant without some form of guidance or assistance. This becomes even more difficult when looking outside the business operations because the financial implications can be costly for small business to implement water stewardship initiatives (Klapper and Beinker, 2017).

2.4.4. Water Footprint Network

The Water Footprint Network (2021) provides an assessment tool in the form of a quantitative analysis to help business develop a water strategy and become water stewards. The assessment tool is available online at: https://www.waterfootprintassessmenttool.org/ and consists of two parts, a production assessment and a geographic assessment, which each contribute to water stewardship.

These assessments assist in identifying hotspots, where the water footprint of the business is unsustainable or can be reduced or avoided (Water Footprint Network, 2021). This enriches communication between the business and its various stakeholders, informing collective action and helping businesses to explore their water footprint, including opportunities to reduce it (Water Footprint Network, 2021). They can also be used to compare the businesses' direct and indirect water footprint and its sustainably in terms of its water components. This assists them in prioritising and setting targets for water reduction to become part of the businesses' corporate water strategy (Water Footprint Network, 2021). Here all stakeholders are informed, and good river basis governance is developed. Thus, assessing a business's sustainability and identifying strategic actions to improve sustainability, efficiency and equitable use of water in business operations, both direct and indirect (Water Footprint Network, 2021).

This global assessment tool has collected and consolidated valuable data and statistics to be able to provide comparable quantification and robust analytics to support businesses in their

corporate water sustainability journey, manage water resources and achieve sustainable development (Water Footprint Network, 2021). This invaluable information can be extracted to help a small business to contribute towards sustainable development in a meaningful, practical way.

2.4.5. Comparing Frameworks and Approaches

The Alliance for Water Stewardship (2021) framework and CEO Water Mandate (2021a) focus on different water outcomes and areas; thus, combining the best elements of these two internationally accepted and recognised frameworks could give credibility to a small business water stewardship framework. The step approach allows for success in the implementation of water stewardship practices because each step should be successfully accomplished and implemented before moving on to the next. It is evident from the literature that these two well-established frameworks are the most often cited and were very useful as the starting point in forming the solid, reliable foundation on which to build a small business water stewardship framework.

The WWF (2018) and The Water Footprint Network (2021) are both global organisations which offer further insights into water stewardship, with tools, ideas and statistics to help guide a business in terms of their sustainability journey to manage water resources, implement water stewardship practices successfully based on reliable information. They are both useful to help to guide the establishment and setting of water reduction targets to establish a best practice, for internal, direct (site) action for the small businesses' water management. The ladder approach assists the small business to move up, expand to external (indirect) action when they are ready and have successfully laid a solid foundation in internal, direct water use. Building on each step to ensure its success and the successful implementation of water stewardship practices.

It should also be noted that other related water management frameworks are evident in the literature other than those discussed above (e.g. Global Environmental Management Initiative, 2021; Pacific Institute, 2021; United Nations Global Compact, 2021; World Economic Forum, 2020), which exist to help businesses and business leaders with water stewardship implementation and the general protection of water resources. These also provide meaningful and valuable information to add value to the development of the small business framework.

2.4.6. The Application or Relevance of the Various Frameworks on Small Business

The global frameworks discussed above provide guidance to large organisations to ensure that they can implement benchmark practices in their water stewardship initiatives to save a scarce resource, benefiting the environment and society, yet still allowing them to make a profit. This demonstrates the importance of looking after the triple bottom line because it can give a business a competitive advantage. If these water stewardship practices can help large businesses, then there is no doubt small businesses will benefit from the implementation of water stewardship practices, tailored to more to meet their specific needs.

The internal (site) action relating to water awareness and direct operations water use which is present in all frameworks discussed, is where small businesses need to start and establish a best practice benchmark; this has minimal financial implications for a small business. The external action relating to how a business affects water outside their organisation, their indirect water use, being catchment areas, river basins and supply chains, is where complications arise for small businesses. This is where a larger financial input is required, and small businesses often do not have sufficient resources for sustainability initiatives or even a budget. Thus, the external action for a small business was adjusted to include a more limited scope of external stakeholders and collective action and governance procedures.

Businesses are exposed to different types of water-related risks and challenges almost daily. Thus, companies are showing a growing interest in water, identifying these risks and mitigating their effects and impact on business operations, driven by factors such as operational efficiency, brand management, corporate ethics and philanthropy, to name a few (CEO Water Mandate, 2022d). The severity and type of water-related risk and the mitigation strategies will depend on three factors, these being (1) location, (2) type of industry or sector and (3) water use (CEO Water Mandate, 2022d), with the business risks being divided into three general inter-related categories of (1) physical risks, (2) regulatory risks, and (3) reputational risks (CEO Water Mandate, 2022d), as discussed in Section 1.4. The three inter-related general risks together are what result in financial risk for businesses due to increased costs or lost revenue as a result of water disruptions, for example, due to an unreliable water supply or higher water prices (CEO Water Mandate, 2022d).

These risks and challenges need to be considered in order to effectively guide a small business in addressing their own specific areas of weaknesses in respect of the consumption and use of water in their operations. There are various tools available to assist business in identifying these

water-related business risks; assessing this risk is an important step towards successful water stewardship implementation (World Wildlife Fund for Nature, 2020).

Section 4.1 in Chapter 4 further unpacks the applicability of the various frameworks to small business, as discussed in this results section. Therefore, it is helpful to view the discussions above with the explained inclusions and exclusions for developing a small business framework.

2.5. NATURAL RESOURCE-BASED VIEW THEORY

The Natural Resource-Based View (NRBV) theory is an expansion from resource-based theory, which took the perspective that a firm's resources and capabilities were the key to a sustainable competitive (Hart, 1995) advantage. The reason for this was that these resources and capabilities were considered costly to copy; hence this was seen as giving them value, and thus they would be the key source of a sustainable competitive advantage (Hart, 1995). The problem, however, was that resource-based theory had a serious omission; namely, it omitted the natural environment (Hart, 1995). This omission of the natural environment has rendered resource-based theory inadequate to be used as a basis for identifying emerging sources of competitive advantage (Hart, 1995) for businesses.

According to Hart (1995, p.986) and later updated by Hart and Dowell (2011), the NRBV proposes that: "a company's competitive advantage is fundamentally dependent upon its relationship with the natural environment. The framework identifies how companies can generate competitive advantage based on capabilities that support sustainable development." The framework points out that an organisation can achieve a competitive advantage when its valuable, rare, and non-substitutional resources are linked to its strategic capabilities of pollution prevention, product stewardship, and sustainable development (Almada and Borges, 2018). Thus, it is clear that the NRBV theory and its three interconnected strategies of (1) pollution prevention, (2) product stewardship and (3) sustainable development provide the framework for businesses to incorporate the natural environment into their strategic management policies (Hart, 1995) to ensure a sustainable future and support a long-term competitive advantage.

Water is arguably a valuable, rare, and non-substitutional natural resource for a business organisation (National Geographic Society, 2019a; UNESCO, 2021), and this scarce natural resource can be looked after by implementing water stewardship frameworks into business

operations. Implementing water stewardship practices will turn a precious scarce resource, water, into a strategic resource (Sarni, 2017). Water stewardship considers all three interconnected strategies highlighted above: (1) water quality concerns associated with pollution prevention; (2) an organisation's products/services' impact on this natural resource; and (3) sustainability aspirations. Only when water stewardship practices have been implemented successfully, can they facilitate improved operational performance and effective use of resources, promoting the protection of this scarce resource (water) for current and future generations, and overall facilitating the creation of an organisation's sustainable, competitive advantage (World Business Council for Sustainable Development (WBCSD), 2021).

An evolution is happening, from the sustainable development of water resources and practices (Aqua Tech, 2019), to corporate water stewardship practices, where it should be seen as an opportunity to create value (WWF, 2021). It has been shown through research, that companies make more money when they invest in the area of sustainability (Klapper and Beinker, 2017). This creates a stronger demand for their good and services, and it is better for the employee's health and wellness as well as the environment (Klapper and Beinker, 2017).

By managing water resources successfully through water stewardship practices, a business can obtain a competitive advantage by looking after people, profit, and the planet (the 3Ps). This concept is known as the triple bottom line, popularised by John Elkington (1997), which takes into account the full cost of doing business, where performance is measured across three dimensions of people, profit and planet (the 3Ps) and can result in a sustainable competitive advantage (Olsen, 2021; Hindle, 2009; Slaper and Hall, 2021). 'Planet' is the natural environment as considered in NRBV theory, and this will be one of the most important drivers of innovation due to the constraints and challenges the natural environment poses on business (Hart, 1995).

The NRBV theory can be linked to numerous sustainable development goals (SDGs), however, in terms of water resources, it is SDG 6 and SDG 14, where the United Nations are focusing their attention. In 2018, they launched the Water Action Decade, to help in mobilising action to transform how water is managed to avert a global water crisis (United Nations, 2018). Implementing water stewardship practices is the action that businesses need to take to help the global water crisis and ensure the protection of this scarce resource for a sustainable future not only for business but for society.

It is clear that the NRBV theory is the underlying theory linked to water stewardship, and implementing these practices can help save a scarce resource and, in doing so, improve a business's triple bottom line, which results in a competitive advantage.

CHAPTER 3: METHODOLOGY

This chapter describes the research paradigm and methodology used to conduct the research on water stewardship and water stewardship frameworks. It begins by re-stating the research aims and objectives, then moves on to discuss the areas of research credibility and trustworthiness. The forms of bias possible in the research are mentioned, and the chapter concludes with a discussion on ethical considerations and the Protection of Personal Information Act (POPIA).

3.1. RESEARCH AIMS AND OBJECTIVES

The overall aim of this research was to develop an approach-specific water stewardship framework for implementation by small businesses, based on a review of the literature. The objectives identified were as follows:

1. To develop a draft water stewardship framework for small businesses based on the literature.
2. To assess the suitability and practicality of the draft framework with small businesses in Makhanda (South Africa).
3. To refine and recommend a water stewardship framework for adoption and implementation by small businesses that can facilitate their sustainable competitive advantage.

3.2. RESEARCH PARADIGM

The research paradigm used was post-positivism, which is based on deductive logic, studying what others have done and then testing the theory that emerges (Pedraza, 2017). Although often considered in quantitative research, post-positivistic research has also been successfully applied to qualitative studies as it recognises that there are multiple perspectives and understandings present in the literature, and it reports on what the majority says (Guba and Lincoln, 1994) to create new knowledge (Ryan, 2006). Post-positivism is a flexible research perspective allowing the researcher to use multiple methods to conduct the research based on the nature of the research questions (Panhwar, Ansari and Shah, 2017). It is able to reduce personal biases of researchers and participants because of the use of more than one research

method and technique, ensuring that the subject is studied from a multiplistic viewpoint (Panhwar, Ansari and Shah, 2017), thus increasing the reliability and objectivity of the research. This is especially relevant for research of a qualitative nature because it enhances the credibility (Noble and Smith, 2015) of the research findings.

3.3. RESEARCH METHODOLOGY

The research method adopted was qualitative (Denzin and Lincoln, 2003), which involved a naturalistic approach to the subject matter. This approach was suitable because it required the interpreting of documents and frameworks created by others and extracting the correct meaning from them to provide accurate, reliable research (Denzin and Lincoln, 2003) to develop a framework for small business.

Qualitative research focuses on collecting and analysing written or spoken words and data of a textual nature (Jansen and Warren, 2020) and is used when the research aims and objectives are exploratory (Jansen and Warren, 2020). The literature review is a systematic way of collecting and analysing previous research, which "creates a firm foundation for advancing knowledge and facilitating theory development" (Snyder, 2019, p.333). This is a critical component to help create theoretical frameworks and build conceptual models (Snyder, 2019).

3.4. DATA COLLECTION TECHNIQUES

3.4.1. Document Analysis and Interviews

The data-gathering techniques were a document analysis of the literature and interviews with small businesses in Makhanda (South Africa). Document analysis is a systematic procedure where documents from printed sources and electronic sources (electronic and internet) are reviewed and analysed (Bowen, 2009), and where interviews provide a flexible and powerful way to obtain meaning from people's experiences (Rabionet, 2011). The draft water stewardship framework for small business was developed from the literature by analysing various documents, with the interviews, providing a basis to get meaningful feedback based on the owner's experiences.

3.4.2. Sampling Technique

The sampling technique to obtain participants for the semi-structured interviews (Adams, 2015) was purposeful and convenience sampling, both forms of non-probability sampling (Tongco, 2007). Purposeful sampling is a technique which deliberately draws from a source based on defined characteristics relevant to the purpose of the study (Etikan, Musa and Alkassim, 2015) and is useful when knowledgeable experts are required (Tongco, 2007). Convenience sampling is a technique drawn from a source which is conveniently accessible (Etikan, Musa and Alkassim, 2015). Seven research participants were identified using purposeful and convenience sampling. They were selected based on characteristics to include a diverse range of small businesses from different industries and the location Makhanda.

3.4.3. Research Participants

The population was all the small businesses in Makhanda, with a sample population of seven small businesses from diverse industries, such as legal, food and beverage, health and fitness, insurance and medical, being interviewed. In qualitative research, a sample size of six is considered sufficient for producing reliable research results, which can be inferred from the sample data (Braun and Clarke, 2006; Boddy, 2016). The literature suggests that a sample size of one can be sufficient, for example, in the case of the discovery of penicillin (Boddy, 2016), and that a sample size can also be too large, hindering the data collection process (e.g. Boddy, 2016; Dworkin, 2012; Renwick, 2019; Crouch & McKenzie, 2006; Sandelowski, 1995). A suggested sample range for qualitative research, based on the literature is anywhere from 5 to 50 (Renwick, 2019).

3.4.4. Semi-Structured Interviews

Interviews are a popular format for the collection of data in qualitative research (Jamshed, 2014; Kallio et al., 2016) in that they have proved to be versatile and flexible (Kallio et al., 2016). The interview process for this research study was conducted using semi-structured interviews, with the owner of each business interviewed. Semi-structured interviews provide reliable and comparable data and are useful when it is unlikely that there will be an opportunity to re-interview a participant (Cohen and Crabtree, 2006; Jamshed, 2014; Kallio et al., 2016; Delve, 2022). The interviews were conducted using a set of pre-determined open-ended

questions (see Appendix A) to provide for a meaningful discussion to obtain and identify new insights (Cohen and Crabtree, 2006) (Delve, 2022) to develop and improve the water stewardship framework, as well as to assist in remaining focused (Delve, 2022; Cohen and Crabtree, 2006; Jamshed, 2014).

Interviews were conducted with businesses 1 to 7 to assess the suitability of Version 1 of the draft water stewardship framework for small business. Adjustments were made after the interviews were concluded, and an adjusted water stewardship framework for small business was sent by e-mail to all research participants for further feedback. This adjusted framework became the final water stewardship framework for small business as discussed in Chapter 6.

The interviews were reordered using Otter.ai, as well as a Philips Dictaphone and were transcribed to text, in Microsoft Word, and edited to correct for American terminology and incorrect translations. The transcribed interviews were copied into Microsoft Excel, where they were formatted, coded and analysed using the method described by Ose (2016) to sort and structure large amounts of qualitative data for analysis.

3.4.5. Follow-Up Communication

Following the interviews and on compiling the final version of the Water Stewardship Framework for Small Business, questions arose relating to the format of the framework. These were sent by e-mail to the participants with the final version of the Water Stewardship Framework, where their feedback was requested. See Chapter 4 (Section 4.9.5).

3.5. DATA ANALYSIS

The research process followed a deductive thematic, theory-driven approach, as described by Pearse (2019a; 2019b). This is defined by Pearse (2019b, p.1) as follows:

> *Deductive qualitative research takes as its departure point, the theoretical proposition that are derived from a review of the literature and applies these to the collection and analysis of data.*

Thematic analysis is an accessible and flexible method of analysis of qualitative data, and it is recognised as a unique and valuable method along with other more established qualitative

approaches (Braun and Clarke, 2012). Braun and Clarke (2006) make use of a six-phase guide, a useful framework for conducting the analysis, displayed in Table 1.

Table 1: Braun and Clarke (2006) Six-Phase Guide Framework

Step 1: Become familiar with the data, Step 2: Generate initial codes, Step 3: Search for themes,	Step 4: Review themes, Step 5: Define themes, Step 6: Write-up.

Step 1: Become familiar with the data

During the transcription phase, while listening and transcribing the recorded interviews, the researcher becomes very familiar with the data, due to listening to the recordings numerous times to ensure accurate transcription. Reading and re-reading the transcripts also adds to the familiarity of the data.

Step 2: Generate initial codes

The data is organised in a meaningful and systematic way, with coding reducing lots of data into small meaningful chunks (Maguire and Delahunt, 2017). There were 31 initial codes generated from the data based on the interview questions developed from literature; see Appendix B for a detailed list of the initial codes.

Step 3: Search for themes. Step 4: Review themes. Step 5: Define themes.

The themes were extracted from the initial codes in Step 2, by categorising and grouping the key emerging themes. They are discussed and displayed in more detail in Chapter 4 (Section 4.2), where the themes have been reviewed and refined further.

Step 6: Write-up

See Chapter 4 ‘Research Findings’ and Chapter 5 ‘Research Discussion’ for detailed discussions.

Due to the limited literature focusing on water stewardship for small business, this approach was helpful in establishing the themes and patterns within the data (Pearse 2019a; 2019b) to assist in creating a suitable framework for small business.

Deductive thematic analysis was the process used to analyse the interview data, using pattern matching (Ose, 2016; Pearse, 2019a; 2019b) and the six-phase guide framework of Braun and Clarke (2006). Theory is the starting point of reference, matching the data collected to the propositions established from the literature to establish themes (Ose, 2016; Pearse, 2019a; 2019b).

3.6. RESEARCH CREDIBILITY AND TRUSTWORTHINESS

According to Nowell et al. (2017), for qualitative research to be considered trustworthy and credible, it "must demonstrate that data analysis has been conducted in a precise, consistent, and exhaustive manner" and it should also disclose the methods of analysis in enough detail to determine this. Thus, conducting the research rigorously and methodically will ensure it yields meaningful and useful results (Nowell et al., 2017). The criteria to ensure trustworthiness in qualitative research are credibility, transferability, dependability, confirmability and reflexivity (Korstjens and Moser, 2018)

The interviewing of small business owners from diverse economic sectors and the triangulation of data from multiple data sources sought to increase the credibility and trustworthiness of this research. The researcher also acknowledges the importance of being self-aware and reflective (Korstjens and Moser, 2018) about her role in the research process at every step of the process of collecting, analysing and interpreting the data, as well as in the pre-conceived assumptions (Korstjens and Moser, 2018) she may bring to the research and research process.

3.6.1. Research Bias

Due to the involvement of human participants in the research process, there is a possibility for participant and researcher bias (Shah, 2019); completely avoiding bias is impossible, but measures can be put in place to reduce it (Shah, 2019) to ensure success in the research process. The researcher is affiliated with one of the small businesses and recognises that there is a possibility of bias. The researcher also recognises that she could be biased in favour of a water stewardship framework for small businesses. However, appropriate steps were taken to reduce the potential researcher bias. This included maintaining objectivity throughout the whole process, remaining impartial so as not to impact the findings (Principe, 2022). Achieved by asking open-ended questions, keeping detailed records of the interview process and ensuring a diverse sample of business were selected for

analysis. Maintaining a high standard of critical self-reflection (Principe, 2022) throughout the design and research methodology process as discussed in the previous sections, reduces any potential bias (Smith and Noble, 2014).

The credibility of the research (Noble and Smith, 2015; Golafshani, 2015) was established through the interviewing of a diverse set of small businesses in Makhanda (South Africa), with these interviews being recorded and transcribed, to be able to accurately recall the interview data at a later stage, reducing any researcher bias.

3.7. ETHICAL CONSIDERATIONS

Ethical clearance was necessary to approach small businesses in Makhanda (South Africa) for interviews to assess the draft water stewardship framework's suitability for implementation. The risk level was low, because the participants had the option to be anonymous, and no material financial or confidential information was required. The researcher applied for and obtained ethical clearance from Rhodes University's Ethics Committee (Approval Reference: 2022-5449-6714). A letter of informed consent was sent to the owner of each small business, where the details of the research study and interview process were conveyed ahead of the interview (Appendix C).

3.7.1 The Protection of Personal Information ACT (POPIA)

The purpose of the Protection of Personal Information Act (POPIA) (2013) is to protect people from harm by ensuring that their personal information is protected as well as their privacy, this being a fundamental human right (POPIA, 2022; South Africa, POPIA, 2013). The POPIA was complied with to keep interview data and records safe, secure and confidential, protecting the rights of all the interviewees. Informed consent was obtained before commencing the interview process (Adams et al., 2021).

CHAPTER 4: RESEARCH FINDINGS

This chapter aims to present the findings of the research study in terms of the three research objectives as described in previous chapters. Version 1 of the draft water stewardship framework for small businesses is presented along with the findings from the interviews. The themes that emerged out of the thematic analysis are presented and discussed, along with how they influenced the development of the final water stewardship framework for small business (WSF4SB), recommended and presented in Chapter 6.

4.1. DRAFT WATER STEWARDSHIP FRAMEWORK FOR SMALL BUSINESS

Version 1 of the draft water stewardship framework for small business was developed from the literature as discussed in Chapter 2 (Section 2.4). Its development is discussed in more detail in Sections 4.1.1, 4.1.2 and 4.1.3, with Version 1 displayed in Figure 10 or see Appendix D.

4.1.1. VERSION 1: DEVELOPMENT OF THE DRAFT WATER STEWARDSHIP FRAMEWORK FOR SMALL BUSINESS

The International Water Stewardship Standard of the Alliance for Water Stewardship (AWS, 2021), the CEO Water Mandate (2021a), the World Wildlife Fund (WWF, 2018) and the Water Footprint Networks (2021) water stewardship strategies, frameworks and tools formed the main foundation from the literature to extract and develop a simplified draft water stewardship framework for small business. These frameworks, discussed and displayed in Chapter 2 (Section 2.4), were included in formal documents which discussed each step in further detail, with each framework document differing in page length. The document page length was taken into consideration when developing Version 1 of the draft water stewardship framework for small business, so as not to scare off a small business by producing a lengthy, cumbersome framework document to read and implement. The draft water stewardship framework for small business was created as a five-page Microsoft Word document and was also referred to as a pamphlet. The intention was to create an easy-to-use, user-friendly pamphlet for use by small business. The five-page draft water stewardship framework for small business (pamphlet) was e-mailed to the seven business owners before the interviews. This was done so that they could consider it and provide feedback on its suitability for implementation by small business. The inclusion and exclusion of the development of the draft framework are now discussed.

4.1.2. Inclusions in The Draft Water Stewardship Framework for Small Business

The themes that have been included in Version 1 of the draft water stewardship framework for small business all appeared in the three frameworks discussed in Chapter 2 (Section 2.4). These themes are discussed hereunder and are considered particularly important for small business because, without an understanding of them, a small business cannot be expected to implement successful water stewardship practices.

4.1.2.(a) Definition

The most commonly used and quoted definition of water stewardship in the literature was that of the AWS (2021), which was used in the draft water stewardship framework for small business. How can a small business expect to implement water stewardship practices successfully if they cannot explain it to other stakeholders or even know what the term means? See Figure 10.

4.1.2.(b) Format Style

The step-approach or style as depicted in the AWS (2021), the CEO Water Mandate (2021a) and the WWF (2018), discussed in Chapter 2 (Section 2.4), was the approach and style taken to be used in the draft water stewardship framework for small business. This simple, user-friendly style seemed appropriate for small business, providing them with guided steps, building on each other to implement water stewardship practices successfully. See Figure 10.

4.1.2.(c) Global Awareness

The importance and relevance of water for organisations and society were discussed in Chapter 1. This is why a section on global awareness was included in the draft water stewardship framework for small business, to show the urgency for small business to take action to protect scarce water resources, providing an incentive for them to act now. See Figure 10, Step 1. The International Council on Mining and Metals (ICMM) deems it appropriate to mention global awareness in their water stewardship position statement, by recognising and stating that "water challenges are increasing around the world" (ICMM, 2022, p.1), where "earth's freshwater resource are finite and under pressure from industrialisation, urbanisation, climate change and

the needs of a growing population" (ICMM, 2022, p.1), and these challenges being "shared across countries, industry sectors and society" (ICMM, 2022, p.1). This highlights the importance of inclusion in the small business framework, to make it clear what the small business is fighting to protect and why they should implement water stewardship practices urgently.

4.1.2.(d) Impact on Local Business Operations

The direct site and local context of a business's water use and impacts were important to all three main frameworks discussed in Chapter 2 (Section 2.4), as well as the other minor frameworks referred to in Section 2.4.5. If this is important to big businesses, then it would be essential to include it in the draft water stewardship framework for small business. The local context and direct site actions are important for small businesses because this is an area where water-related issues can easily be identified and addressed at minimal cost to themselves, and where a small business can make the most significant difference. Having a comprehensive knowledge of a business's direct water use is the foundational step in starting the process of water stewardship implementation and achieving success; hence a small business would need to know this. See Figure 10 (Step 1).

4.1.2.(e) Planning, Targets and Goals

Planning, target setting and goal achievement are evident in all three frameworks discussed in Chapter 2 (Section 2.4) and thus seemed critical for inclusion in a draft water stewardship framework for small business. The importance for small business is to give them direction and guidance in setting realistic and specific goals and targets to take appropriate action to tackle water challenges and resolve water problems with water stewardship practices. See Figure 10 (Step 2).

4.1.2.(f) Indirect / External Water Use

Indirect or external water use was included in the draft water stewardship framework for small business, limited to immediate local stakeholders, like employees and local collective action, limited to the businesses area of operations and the local community. This indirect/external water use had to be included in line with the three frameworks discussed in Chapter 2 (Section

2.4), which all indicated that some form of external action “beyond the fence line” (WWF, 2018, p.11) of the business was important because this is essentially what takes the protection of water resources from being water efficiency to water stewardship (WWF, 2018), the next level. The goal of small business is to get to this next level of successful water stewardship practices. The draft water stewardship framework for small business would be considered incomplete and ineffective without this external action, and the framework would not be successful in helping small business fight the gripping water crisis, preserve scarce water resources, strengthen business continuity and provide hope for the future. See Figure 10 (Step 3).

4.1.2.(g) Education and Communication

Education and communication are evident in all three frameworks discussed in Chapter 2 (Section 2.4) and are important to enable water stewardship practices to be implemented with success within a business. They are incorporated into water stewardship practices through collective action with internal and external stakeholders. This was specifically included in the draft water stewardship framework for small business, because a small business will require buy-in (WWF, 2022b) from its employees (internal stakeholders) and external stakeholders, to prevent resistance to its implementation and possible failure, and this can only be achieved through education and effective communication. Education and communication are important to a small business to assist with water stewardship implementation and its success, to bring awareness to the global water crisis and water stewardship practices to save a scarce resource for future generations. See Figure 10 (Steps 3 and 5).

4.1.2.(h) Evaluation and Corrective Action

Evaluation and corrective action are essential because a business does not operate in a vacuum, and as such, there is constant change (Moore, 2021), so water stewardship targets and goals should constantly be adjusted and updated to take into account the changing business environment (Moore, 2021) to ensure the continued success of water stewardship practices. Evaluation and correction action was included in all three frameworks discussed in Chapter 2 (Section 2.4) and considered important for a small business to ensure their water stewardship practices do not become outdated and obsolete and cease to work and function optimally and effectively. The inclusion of evaluation and corrective action will prevent the collapse of the

water stewardship framework in the small business and ensure that the ultimate aim of protecting scarce water resources for future generations is obtained. See Figure 10 (Step 4).

4.1.2.(i) Governance and Disclosure

Governance refers to self-governance and regulation against the benchmark frameworks discussed in Chapter 2 (Section 2.4). Self-governance is a less onerous task for a small business to implement and is cost-effective; thus, governance was included in the draft water stewardship framework for small business. Through self-governance, small businesses can hold themselves to high standards to protect the scarce water resources for the benefit of society and the environment and not selfishly only look after the business's financial bottom line. Disclosure is also important, especially for a small business, because it demonstrates the business's integrity in the protection of scarce water resources and shows transparency in that they hold themselves accountable to others for the greater good. Thus, it was essential to include governance and disclosure in the draft water stewardship framework for small business, because if a business has no one to be held accountable to, then the likelihood of implementing successful water stewardship practices to save scarce resources is non-existent. See Figure 10 (Step 5).

4.1.3. Exclusions from the Draft Water Stewardship Framework for Small Business

The indirect or external water uses through supply chains and catchment areas has specifically been omitted from Version 1 of the draft water stewardship framework for small business. For a small business to analyse their supply chains' water use and the larger catchment areas in which they operate, complicates the implementation of water stewardship practices. Small businesses usually do not have funds set aside for sustainability initiatives, with the costs to implement them and maintain them usually not budgeted for, and if certification is required, this can also be a costly exercise (Klapper and Beinker, 2017). These two areas of indirect water use place an increased financial burden on small businesses, making water stewardship implementation impractical because it is no longer financially viable. Sections 4.1.3.(a) and 4.1.3.(b) discuss the exclusion of supply chains and catchment areas in more detail. Collective Action with municipalities, government departments, NGOs and the general public has also been excluded, and this is discussed in more detail in Section 4.1.3.(c).

4.1.3.(a) Supply Chains

A study conducted by the Economist Intelligence Unit and LLamasoft found "38% of companies said that higher costs make it harder to adopt sustainable supply chains" (LLamasoft, 2019, p.1) and that this was not a straightforward process, with 18% of companies lacking the expertise to implement sustainable supply chains (LLamasoft, 2019). Taking these statistics into consideration, it is reasonable to expect that a small business will find it difficult to analyse their supply chains' indirect water use due to the lack of expertise within the business and that the cost to do so may possibly outweigh the benefits for a small business.

According to the WWF (2022b), "many supply chains are complex" (WWF, 2022b, p.16), which makes the traceability of indirect water use difficult, if not seemingly impossible (WWF, 2022b). This clearly indicates that for a small business the task of analysing supply chains is not straightforward, as discussed above, and that a small business is not likely to succeed because of the considerable effort that will be required by them to unpack and understand their supply chains. Expert assistance would come at a cost, which a small business has no budget for.

According to the CEO Water Mandate (2021a), analysing a business's supply chain in respect of "the degree to which their suppliers utilise water" (CEO Water Mandate, 2021a, p.4) is a new concept, with many companies only starting this process. Thus, if large companies are only starting this process, it is plausible that a small business is unlikely to possess the necessary expertise and skills within their organisation to carry out the complex process of analysing and understanding their supply chains.

For example, when Woolworths Holdings Limited (Woolworths), a leading retail group (Woolworths Holdings Limited, 2022a), engaging in the provision retail and financial services (Wall Street Journal (WSJ), 2022), started its water resource management journey, it engaged with experts to measure its water use (Green Economy Media, 2015) and to work with their supply chains to measure, conserve and improve wastewater management (Green Economy Media, 2015). Woolworths is a large, well-established global retail business, which required experts to assist them with supply chain analysis of water resources.

For the reasons stated above, the analysis of the indirect supply chain water use was specifically excluded from the small business water stewardship framework, in order to give it a reasonable chance of finding traction with small business. Thus, allowing for success in their water

stewardship journey by not overburdening small business with extra financial costs and complex analyses.

To bring the draft water stewardship framework for small business in line with the benchmark frameworks in Chapter 2 (Section 2.4), the inclusion of indirect water use was adjusted to suit small business, as explained in Section 4.1.2.(f). In the future, small business can adjust their indirect water use to include supply chains, through the evaluation and corrective action step, as discussed in Section 4.1.2.(h), as the small business successfully progresses in their water stewardship journey.

4.1.3.(b) Catchment or River Basin Area Water Management

"A catchment (or river basin) is the area of land from which all surface run-off flows through a sequence of streams, rivers, aquifers and lakes into the sea or another outlet at a single river mouth, estuary or delta" (Easton, 2013, p.1). The catchment is made up of surface water, which is the visible water and groundwater, which allows for underground water flow between catchments (Easton, 2013). The water collected from the natural landscape by the catchment areas is what makes up the water supply system and the water that individuals and businesses draw on to meet their water demand (Water NSW, 2022).

South Africa has nine water management areas, which include major rivers, which match the boundaries of the nine catchment management areas. In terms of the National Water Act (1998), these catchment management areas are responsible for the management of water resources at a regional level (South Africa, National Water Act, 1998).

A catchment area contains many different stakeholders, for example, farms, farmers, industry, business, local people, conservation areas, government regulators and municipalities to name a few (Easton, 2013). Where actions by one of these stakeholders will have an impact on the others (Easton, 2013), either positively or negatively, these actions will clearly affect the water resources they share. In order for a business to fully understand their catchment area, they need to map it and obtain reliable updated data on, but not limited to, the water sources, flow routes, discharge points, and water cycles, as well as understand government policies relevant to water management (Easton, 2013).

What does all this mean for small business? The process of understanding the catchment areas is going to be very resource intensive, financially intensive and possibly difficult for a small

business to implement successfully without help from experts. The AWS (2021) recognises the fact that for a small business the "outcomes cannot typically be fully achieved for a catchment" (Alliance for Water Stewardship, 2021, p.7). Hence, the analysis of the catchment area has been excluded from the draft water stewardship framework for small business, to give it a reasonable chance of finding traction with small business by not overburdening them with tasks which are difficult to accomplish due to a lack of resources. Thus, allowing for success in their water stewardship journey until such time as they are able to implement the catchment in the future, through the evaluation and corrective action step, as discussed in Section 4.1.2.(h), as the small business successfully progresses in their water stewardship journey.

4.1.3.(c) Collective Action

Collective action, specifically with municipalities, NGOs, government and the general public has specifically been excluded from the small business framework, limiting the scope of collective action for small business as discussed in Section 4.1.2.(f). Limiting the scope of collective action does not diminish its importance, because working together with others can have a greater impact than working alone (Deloitte, 2022), but this is not always the case. Collective action involves individuals working together to achieve a common objective, and it is well-recognised that individuals often fail to work together to achieve a group goal (Dowding, 2013), despite the benefits of collective action. For a small business spreading their resources too thinly by trying to communicate with too many diverse stakeholders can be ineffective and result in the failure of the collective engagement initiative. This, in turn, can also affect the success of the water stewardship implementation. A small business may also not have the necessary skills to engage in collective action. There are barriers when trying to engage with government departments and municipalities (government regulations and bureaucracy), and this also involves communication at a political level. Ensuring the NGOs are reputable and able to incentivise relevant stakeholders can also be difficult to establish. Thus, trying to work with the greater general public may hamper water stewardship efforts and create further social and environmental dilemmas. Collective action also comes at a cost to bring together diverse stakeholders locally and internationally, and small business will not have sufficient funds, resources or skills for large collective action initiatives. This will negatively impact the implementation of water stewardship practices in small business. It is for these reasons that collective action has been limited, as discussed in Section 4.1.2.(f).

4.1.4. VERSION 1 THE DRAFT WATER STEWARDSHIP FRAMEWORK FOR SMALL BUSINESS

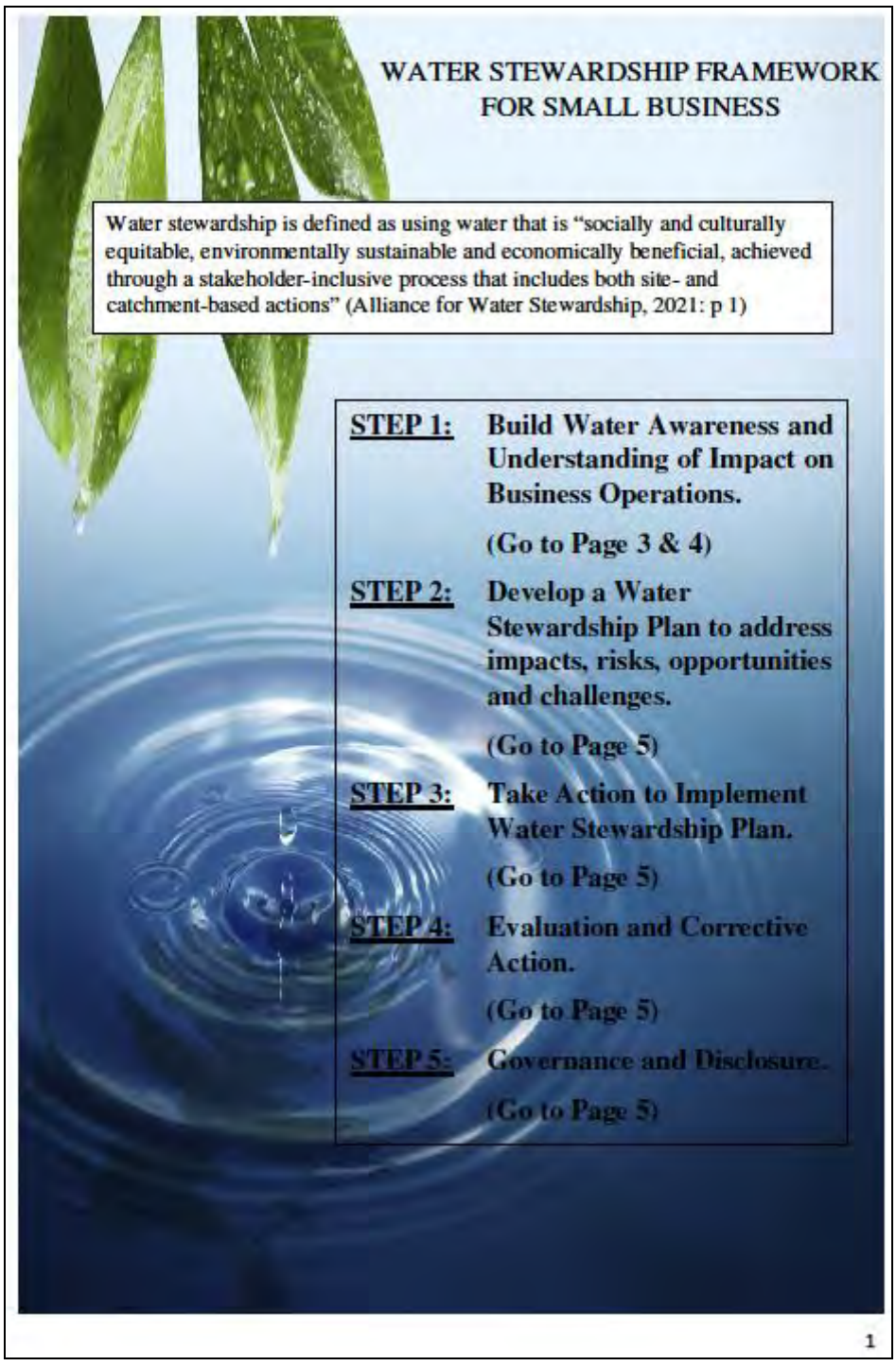


Figure 10: Page 1 of the Draft Water Stewardship Framework for Small Business

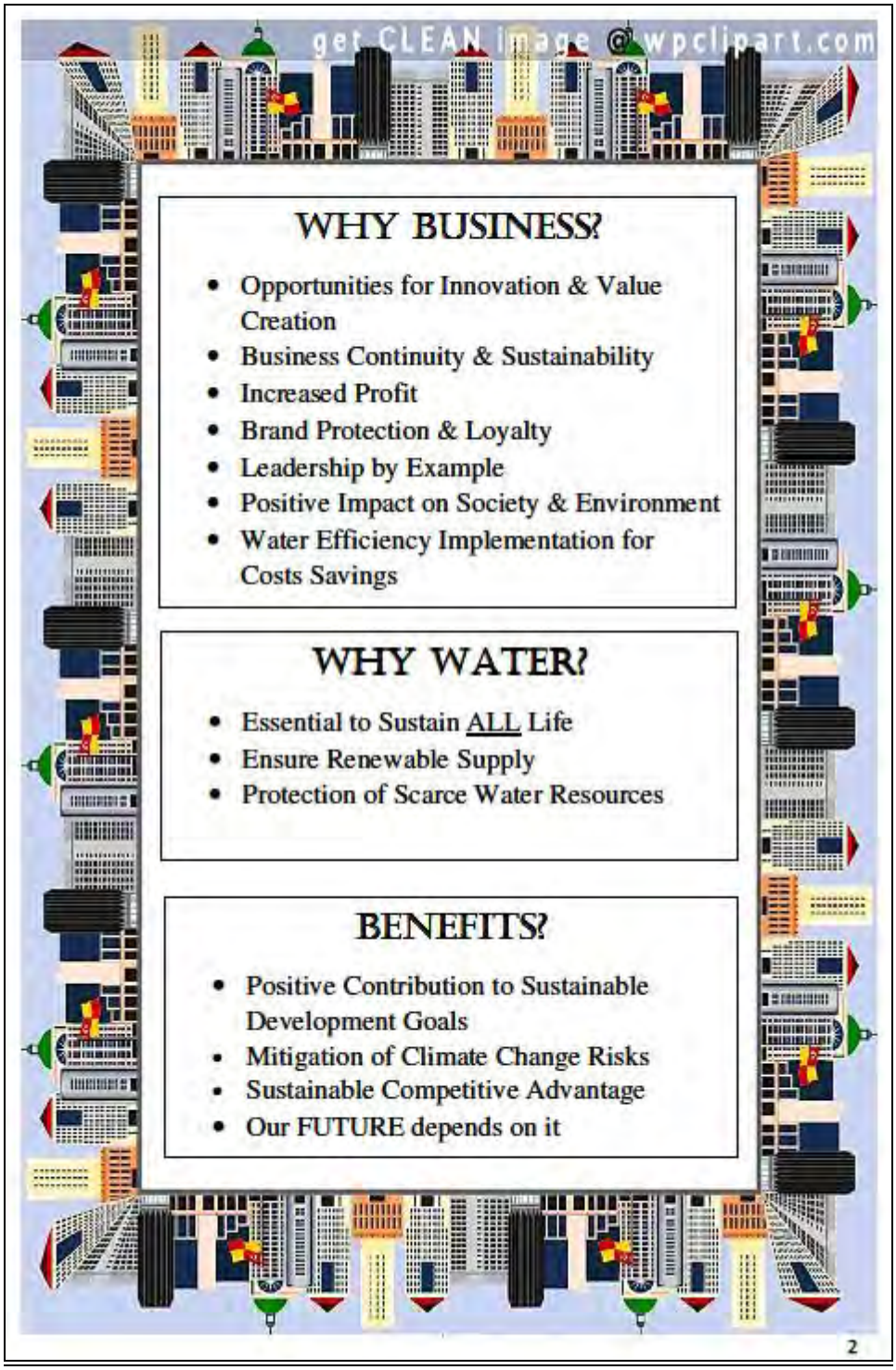


Figure 10 continued: Page 2 of the Draft Water Stewardship Framework for Small Business

WATER STEWARDSHIP TOOL BOX: TO ASSIST WITH IMPLEMENTATION OF FRAMEWORK

STEP 1

BUILD WATER AWARENESS AND UNDERSTANDING OF IMPACT ON BUSINESS OPERATIONS

1.1. Appreciate Global Water Challenges.

1.2. Assess and understand the businesses operational **direct** water use:

- Conduct a comprehensive assessment of the water use of the business.
- Where does the water come from? Municipal, borehole, rain, river, other?
- How water use impacts on the local community.

1.3. Identify risks, challenges, impacts and opportunities both positive and negative in respect of water use of the business site.

FURTHER EXPLANATION

1.1. Appreciate Global Water Challenges

A few of the common water challenges being experienced around the world include:

1. Water demand increasing due to population growth and industrialisation.
2. Water Scarcity due to shortage caused by drought, or infrastructure failure.
3. Water Stress caused by demand exceeding supply.
4. Water Pollution contaminating water sources and the water quality.
5. Insufficient Safe and Affordable Water for hygiene and sanitation.
6. Natural Freshwater ecosystems are being destroyed.
7. Climate Change impacts on water.
8. Human Right to access clean and safe water.
9. Increasing costs of consuming water.
10. Health risks imposed due to lack or water or poor quality.

Any one of these can challenges can result is many hardships for business, people and planet.

3

Figure 10 continued: Page 3 of the Draft Water Stewardship Framework for Small Business

1.2. Assess and Understand the Businesses Operational **DIRECT** Water Use

1. **Conduct a comprehensive assessment of the water use of the business to determine how you can help fight water challenges locally.**

   How? This may be different for each business, but the core assessment is as follows: Walk around the business premises and list these. Examples include: toilets, showers, bath, kitchen sink, garden tap, irrigation system.

   If you are fully aware of what you are using water on, then it helps to implement control procedures to reduce use or re-direct water.

2. **Where does the businesses water come from?**

   Make a comprehensive list of the water sources, this could be municipal, borehole, rain, river, other sources. This helps in establishing whether there could be problems with scarcity or quality and also allows for calculating costs more efficiently.

3. **How water use impacts on the local community?**

   Investigate how your local area is being affected by lack of water and what you as a business can do to help. Look at society and stakeholders.

1.3. Identify risks, challenges, impacts and opportunities both positive and negative in respect of water use of the business site.

Risks:	Business Closure
Challenges:	Costs to implement, obtaining finance
Impacts:	Pollution, Illness
Opportunities:	Innovation, water saving technology, example for others to follow.

4

Figure 10 continued: Page 4 of the Draft Water Stewardship Framework for Small Business

STEP 2:

DEVELOP A WATER STEWARDSHIP PLAN TO ADDRESS IMPACTS, RISKS AND CHALLGENGES IDENTIFIED

Set goals and targets for water conservation.

Identify waste water areas and reduction possibilities.

Identify Grey Water possibilities.

Develop an Organisational Culture awareness on water sustainability.

Document a Water Position Statement.

Document the Water Stewardship Plan.

Share water stewardship practices with stakeholders.

STEP 3:

TAKE ACTION TO IMPLEMENT WATER STEWARDSHIP

Identify and appoint a manager to oversee water stewardship.

Internal Action.

External Action with stakeholders (Collective Action).

Educate internally and externally on water sustainability and stewardship.

STEP 4:

EVALUATION AND CORRECTIVE ACTION

Frequent Evaluations: Feedback loop to step 2 to reset targets and goals to align with growth of the business

Take corrective action and continued improvement

STEP 5:

GOVERNANCE AND DISCLOSURE

Transparency and Accountability

Ethical obligations on business to safeguard water

Communication

5

Figure 10 continued: Page 5 of the Draft Water Stewardship Framework for Small Business

4.2. THEMES FROM THE THEMATIC ANALYSIS OF INTERVIEW DATA

The ten themes that were extracted from the initial codes (See Appendix B), as referred to in Section 3.5, are as follows:

- Water Awareness
- Water Stewardship Concept and Definition
- Small Business Definition
- Effects on Small Business
- Stakeholder Awareness and Training
- Triple Bottom Line and Future Prospects
- Water Use Scale & Sectors
- Water Risks
- Water Quality and Quantity Impacts
- Framework Adjustments, Suitability & Implementation

The themes are discussed further in Section 4.3, where they have been further refined.

4.3. SUITABILITY FOR SMALL BUSINESS

4.3.1. Research Participants

The seven research participants (SMEs) interviewed to assess the suitability of Version 1 of the draft water stewardship framework are displayed in Table 2. The details of this table are explained hereafter.

Table 2: Research Participants

SME name	Sector/Industry	Owners Perceived Water Use
Business 1: (B1) Anonymous	Legal	Low Intensity
Business 2: (B2) Anonymous	Legal	Low Intensity
Business 3: (B3) Anonymous	Food	Medium Intensity
Business 4: (B4) Anonymous	Beverage	High Intensity
Business 5: (B5) Anonymous	Health & Fitness	Medium Intensity
Business 6: (B6) Anonymous	Medical/Healthcare	High Intensity
Business 7: (B7) Anonymous	Insurance	Low Intensity

4.3.2. Sector and Industry

The terms industry and sector are commonly used interchangeably; however, they do have different meanings based on their scope (Bureau, 2018), which can create some confusion. A sector is a large segment of the economy, while an industry describes a more specific narrowed focus of businesses within a sector (Bureau, 2018; Kenton, 2022). The research participants are classified per industry, being a more narrowed focus of their business operations.

Business 2 enquired as follows: "*I am assuming that you have considered your water questions would have different implications for different sectors?"*. They referred to the difference in water use between a law firm and a restaurant, saying, "*for restaurants, the water use situation might be drastically different"*. The researcher was well aware that this would be the case; hence the research participants were chosen from different industries as described in Chapter 3's Methodology section. Business 2 was advised of this on raising their question, and they were satisfied that this area had been addressed. The other businesses did not have any questions related to different sectors or industries having different impacts on water. Business 2 referred to different sectors in their question; however, in their example, they used two different industries, legal and food, demonstrating the interchangeability of the term, which can create confusion.

4.3.3 Owners' Perceived Water Use

During the interview process, each owner said something or commented on their own perceptions of their water use in their business operations. The comments were compared and contrasted to informally classify each business owner's perceptions of their water use as high, medium or low intensive water use. Water Intensity refers to "the amount of water a company withdraws per a specific product unit or financial output" (CEO Water Mandate, 2014, p.1). This will vary per industry. The businesses had the following to say about their perceived water use, which is displayed in Table 2.

Business 1, in the legal industry, said their area of water use was *"pretty limited"*, as water was used for "*the toilet, washing hands, filling the kettle"* and cleaning and "*our consumption at work is negligible"*. Hence, they were classified as low intensity.

Business 2 said, *"for legal firms, our businesses are not water intensive. We use water in as much as people need the toilet or want tea or coffee".* This is in agreement with Business 1, which is also in the legal industry; hence they were classified as low intensity.

Business 3 said, *"it's not an ingredient in my product",* but they need water to maintain a high standard of cleanliness when making their product "*it would be almost impossible, it would be horrible, I would never, I wouldn't probably be making ice cream".* They were classified as medium intensity as their use of water was more than Business 1 and Business 2.

Business 4 is in the beverage industry and a provider of purified water and beverages, with their product being bottled water. They did not specifically comment on their water use, but it is concluded that they are classified as high water intensive due to the nature of their business.

Business 5 said, *"we aren't a high-water use business", "we've got to keep stuff clean"* and *"we have people showering and using toilets"*. They were classified as medium intensity due to the inclusion of showering, which did not happen at Business 1 and Business 2. In line with Business 3, where water was required for something more than just toilets and drinking.

Business 6 needs water for their equipment to work and in their sterilization process. It was said "*we are quite vulnerable because we need water"* and "*we need water for our sterilizers and to run suction units"*. They were classified as high-water intensive in line with Business 4 because their water footprint use was more than just toilets and hygiene, it is required in the business process.

Business 7 said "*we don't use water, except for hygiene purposes",* which is in line with Businesses 1 and 2 for the toilets and cleaning and not in terms of hygiene like Business 3 to make a product; hence they were classified as low water intensive.

4.4. UNDERSTANDING WATER STEWARDSHIP

The findings on small businesses' understanding and interpretation of water conservation and awareness as a global issue, the concept of water stewardship and its definition are discussed. Looking at small business, specifically how water affects their business, incorporating financial risks, the triple bottom line and competitive advantage. Then the importance of stakeholders and whether there is hope in saving water for future generations is discussed. The businesses' viewpoints from the interviews will be compared and contrasted with each other to assist in revising and improving Version 1 of the draft water stewardship framework for small business.

4.4.1. Water Awareness

Businesses 1 to 7 were all aware of water being a scarce resource, but not because it is in short supply as a natural occurrence, in terms of sustainability, due to climate change, pollution or population growth, but mainly because of infrastructure problems with the local municipality in Makhanda. These infrastructure problems cause many water shortages in the town, which create challenges and have a negative impact on small business operations. The seven small businesses were all aware and recognised that there is a need to conserve, preserve and save water; they had an awareness of water problems, but as a consequence, mainly due to inefficiencies of their local municipality and its failing infrastructure. Business 6, however, knew it was more than just a local need but also a global need. This lack of water awareness was demonstrated by the following comments made by the business owners:

Business 1 referred to the "*municipality's inability to provide water"* and their water-saving techniques when no water is available from the municipality *"the measures that we've got in place would go a long way to using less water and then conserving water".*

Business 2 said "*I had an awareness of the need for conserving water resources and preserving them"* and *"our second rainwater tank was installed when Makana municipality was really struggling with water supply".*

Business 3 referred to the inability of the municipality to supply constant water "*we are very conscious of it because of the situation in Grahamstown [Makhanda], you have to be conscious of the water situation, we don't have a choice".*

Business 4 said "*I think the problem, the big problem comes from municipal level"* and *"the problem starts long before it gets to the user".*

Business 5 in referring to their water, said "*municipal water straight from the source"* and "*blame the bigger person or the municipality"* when referring to shortages.

Business 6 references water issues as *"when we started having trouble with our water supply in Grahamstown [Makhanda]"* and *"in that, it wasn't being consistent"*, but is also aware that "*it's a worldwide, global need".*

Business 7 said "*I have been aware that we need to start saving water"* and in connection with the infrastructure problems of the municipality, they refer to switching between municipal water and tanks "*when we are just on municipal water and when we are just on tank water".*

4.4.2. Concept of Water Stewardship

The seven small businesses interviewed were asked if they were aware of the concept of water stewardship before being contacted to participate in this research study or reading Version 1 of the draft water stewardship framework for small business given to them to read prior to the interview. Six of the seven small businesses were unaware of the concept of water stewardship, with the exception being Business 6, in the medical sector and also a large water user in business operations, so this might explain why they had more of an awareness of the concept. Thus, based on this, it is clear that small businesses may not be aware of the concept of water stewardship, and this is evident from some of the comments made by the business owners. Where Business 1 mentioned *"it's a new concept, thank you for opening my eyes to it"* and Business 2, on awareness of the concept, said *"Absolutely not, I didn't know there was a name for that".* Business 3 said that they are "*aware in terms of general sustainability"* that water is a scarce resource, but not in terms of water stewardship as a concept. Lastly, Business 5 said "*not necessarily as a term, like being given a label"* or having *"an official term",* referring to water stewardship as the label or official term.

4.4.3. Definition of Water Stewardship and Draft Framework

The Alliance for Water Stewardship's (2021) definition of water stewardship was used in Version 1 of the draft framework, and this definition was discussed in Chapter 2 (Section 2.1). The businesses were asked whether they had an understanding of this definition and understood the draft five-step framework presented. The results varied, where Businesses 3, 4, 5 and 6 felt they had a basic understanding of the definition and the draft five-step framework, with Business 3 saying of the framework "*its' absolutely self-explanatory",* and Business 5 saying, "*I am pretty happy with what it means".* Businesses 1, 2 and 7 had a few queries and required some further explanation to resolve their queries. This is supported by the owner's comments, where Business 1 said "*there are some concepts that I am not familiar with, but I think I understand it"* and Business 2 felt "*a bit confused as to what it is"* referring to the framework and definition and Business 7 felt "*I don't really have a basic understanding*" and asked for a further explanation. This confirms the discussion in 4.4.2 above that small businesses are not familiar with water stewardship and its value to business.

4.5. SMALL BUSINESS INFORMATION

This research was specifically in respect of small business, and each business confirmed they had less than 50 full-time employees, which conformed to the definition of a small business as discussed in chapter two. Meeting the definition of a small business was important because this water stewardship framework was being developed for implementation by small business, who have been neglected in respect of suitable frameworks. Each business owner informed the researcher of the number of employees they had, where Business 1 had 9, Business 2 had 13, Business 3 had one, Business 4 had three, Business 5 had two, Business 6 said "*yes"* and Business 7 had two. Thus, confirming that these businesses were suitable small businesses to participate in the research process to assess the suitability and practicability of the draft water stewardship framework for small business, Version 1.

4.5.1. Water Quality and Quantity

The businesses were asked whether they were affected more by water quality, quantity, or both. In response to this question, it was unanimous that all the businesses were affected in some way, whether small or large, by either one or both of these water risks and that there was cause for concern. Businesses 2, 3, 4 and 6 said they were affected by both water quantity and quality. Where Business 2 said that they installed their first water tank when "*Makana was really struggling with water"*, meaning the municipality was struggling to supply water, referring to the quantity of water. They installed a second rainwater tank to be used for drinking water only, where they said, "*we had a lot of staff that were not drinking municipal water, but people were quite happy to drink rainwater",* here referring to quality. Business 3 made the following comment "*it has got to be good quality water and as far as quantity, definitely it is a big thing because it's got to be available".*, "*quantity is incredibly important".*

Businesses 1, 5 and 7 said they were affected only by water quantity, but mentioned that water quality would have a minimal effect on their business, but could still affect their operations. Business 1 said that *"quality has such a negligible impact; we can probably not consider it and it's being boiled anyway"* referring to being boiled for consumption to make tea and coffee, and Business 5 said, *"we haven't had an issue with any polluted water".*

Business 4 (as a provider of purified water and beverages), was affected by both water quality and quantity, but relied on poor quality water and erratic supply of water, in contrast to the

other six businesses which required better quality water and a steady supply to run their business operations. The reason for this anomaly for Business 4 is that their product is the supply of purified water and beverages.

4.5.2. Negative Effects on Business: Financial Risk

The businesses were asked if water-related problems (as discussed in Section 4.4.1) would have a negative impact on their operations and operational income. Six businesses were unanimous and agreed that the lack of water or poor water quality leads to operational and income challenges, resulting in financial losses. No specific details on their financial losses were provided, but to illustrate their concern and understanding of this Business 2 said *"it would be unconscionable to force people to work a full day's work when they have no access to a flushable toilet or drinking water"* and *"If we can't operate, then we can't generate fees"*. Fees refer to operational income. Business 7 did not agree with the other businesses, and the reason they provided was that the majority of their work is done remotely, being in the insurance industry. They did not specifically need an office, and they could go see their clients at their homes or offices instead. Thus, they did not feel it would have a negative effect on their operations or even a financial impact. Business 4, was an anomaly and would only be at financial risk should the quality and quantity of municipal water sources improve, because their operational income stream is based on poor quality water and insufficient municipal supply by Makana Municipality. Financial risk and other risk elements were discussed in more detail in Chapter 1 (Section 1.4). Business 5 felt that in the short-term financial losses could be mitigated; however, in the long term, the consequences would be more severe for a small business with the possibility of businesses having to close down operations. They had the following to say "*we can run with essentially no water short term if we had to",* but *"it's not ideal long term"*. It would have a negative impact financially, "*long term definitely"*. Perhaps Businesses 1 to 6 could consider adjusting operations to implement some form of remote work in their future, like Business 7, to mitigate financial risks.

4.6. TRIPLE BOTTOM LINE AND COMPETITIVE ADVANTAGE

On asking the businesses whether they thought implementing water stewardship practices would give them a competitive advantage, the responses varied, and these are summarised as follows: Businesses 1, 4 and 7 said 'no' it would not give them a competitive advantage, but

Business 1 and 7 would still implement water stewardship practices despite this. Business 1 said that due to their water use being so small, they felt it was not likely to have an impact, while Business 7 said "[*n]o, I don't think it is going to make any difference*", they felt it would not increase their client base by implementing water stewardship practices. Business 4, however, said it would be a disadvantage to them to implement water stewardship practices and is not likely to do so; the reasons for this were explained in Sections 4.4.1 and 4.4.2. They said what makes "*our business successful is poor quality water"* and*, "I think water has got a value now, which it never used to have".* Businesses 2, 3,5 and 6 said 'yes', it would give them a competitive advantage. In support of this, some of the owners said: Business 2 said "*I definitely do think that",* and Business 3 said *"Yes, definitely, definitely", with* Business 5 saying *"looking at the bigger picture, the more sustainable we can be long term, the better, customer are waking up to that now".*

4.7. STAKEHOLDER AWARENESS AND TRAINING

The business owners were asked whether their stakeholders, such as employees, customers, friends or family, would be aware of the concept or idea of water stewardship and whether they would consider training or educating their various stakeholders, should they not be aware. All businesses were in agreement that they would be prepared to train stakeholders on water stewardship. Business 6 said in respect of education and training, "*Absolutely, I think any education is critically important and never to be downplayed or refused".*

In respect of stakeholders being aware, their local stakeholders are possibly more familiar and aware of water problems due to Makhanda's water difficulties (as explained in Section 1.5.3); however, where there was no awareness, they would be prepared to create and promote awareness of scarce water resources and promote water stewardship practices. This is where collaboration, as discussed in Chapter 2 (Section 2.3) and featured in Version 1 of the draft water stewardship framework, comes into play. Everyone (different stakeholders) is working together to create awareness, save scarce water resources and promote water stewardship practices taking their water-saving efforts to the next level and not just being water efficient but becoming water stewards.

Business 1, 2, 3, 4, 5 and 7 said their stakeholders are possibly aware that there are water problems and water should be conserved, but would not be aware of the concepts of water stewardship. Business 2 said, "*I don't think they think about water stewardship in the sense"*

that it has been termed for this research, *"they think about water conservation"* and "*are aware of the fact the water is a scarce resource".* Business 3 said their stakeholders are aware of "*the situation we are living and dealing with",* referring to the water situation in Grahamstown [Makhanda]. "*we talk about it, it's not something we keep quiet about, they are very aware of it"*, referring to the water issues in Grahamstown [Makhanda]. Acknowledging that there is a water situation is more of a water conservation issue and does not mean they are aware of water stewardship. Business 5 said that *"youngsters are less aware of the impacts",* being the impact, no water has on business, society or the environment.

Business 4 was not in agreement with the other businesses; being in the beverage industry, they said their stakeholder (employees) would be aware of the concept and said *"our employees deal with the public and they have a lot of questions",* so yes, they are aware. They need to be able to answer the public's questions.

4.8. THE FUTURE: IT'S NEVER TOO LATE

The businesses were asked whether they thought that the implementation of water stewardship practices could help save these scarce water resources for future generations or if it was too late. All the businesses were in agreement that it was not too late to save these scarce water resources for future generations and that water stewardship practices would go a long way to helping with this. Where Business 6 said "*I think more now than ever before as human beings we are putting our natural resources under extreme strain"* and *"children have grown up with a better concept of water stewardship"* than the older generations. Here the older generation can learn from the next generation (children), who will inherit the planet and its resources and provide help to them now. Promoting and implementing water stewardship practices is a form of help, and all small businesses should work together to provide this help.

4.9. REFINING AND IMPROVING WATER STEWARDSHIP FRAMEWORK FOR USE BY SMALL BUSINESS

The seven businesses were provided with Version 1 of the draft water stewardship framework for small business, as presented in Figure 10, to read before their interview. During the interview process, respondents were asked questions relating to the framework. The sections below are related to improving the draft water stewardship framework for small business, based on the

owner's experience of running a small business. This was important to improve Version 1 and develop and recommend a final water stewardship framework to be implemented by small business, as presented in Chapter 6 (Section 6.1.1).

4.9.1. Impractical Concepts by Small Business

The businesses were asked if they felt any part of the draft framework was impractical or not suitable for a small business to implement and whether anything stood out that they did not like and should be removed. Business 2 to 7, i.e., six businesses said 'no', while Business 1 felt that their impact was so small that it may take some convincing for other small businesses to consider implementing water stewardship practices, but other than convincing or persuasion, there was no other comment to indicate anything impractical or not suitable. Some of the owner's comments in this regard were: Business 2 said "*I don't think I found anything to be excessively impractical at all",* Business 3 said "*there was nothing that I thought, okay, well I don't understand that, or you need to be clearer"* and in respect of being impractical "*No, I don't think so"* and Business 7 said, "*No, I don't have anything".*

4.9.2. Concepts of Interest by Small Business

The businesses were asked if there was anything in particular related to the draft framework that they liked or stood out to them that captured their interest. All businesses were in agreement that the concept and awareness of water stewardship gave them something to think about as a small business going into the future. The framework and pamphlet provide business with the opportunity to do good for the environment, society and the future. They had the following to say: Business 1 liked *"the whole concept, it's something they had never considered",* but have now *"become aware of",* Business 3 felt "*what is interesting is the awareness, and the focus on water stewardship is what's important"* and "*awareness of how one needs to sustain and do what one can to enable water to be available",* Business 5 said "*I think you have left it very nicely in that it said, this is what you can do, not what you have to do. These are the small steps you can take to doing better"; "I like that, I thought it was cool",* Business 6 said "*I think what you have presented in your framework, highlights all the pertinent aspects of water stewardship"* and Business 7 said "*I think it's clear, it makes sense what you were trying to achieve out of the document",* and I like the effect of "*contributing to this, it's more about the doing good feeling and doing good for the environment".*

4.9.3. Specific Improvements and Queries

The business owners were asked to comment on improvements to Version 1 of the draft water stewardship framework based on their own personal experiences of running a small business. Some of their comments are listed below, which were taken into consideration in developing the final water stewardship framework presented in Chapter 6 (Section 6.1.1). Some comments and suggestions were also beyond the scope of this research study but were of interest and included for consideration for further research in Chapter 6 (Section 6.3). Business 3, 4 and 6 felt no improvements were necessary, and the draft framework was clear as it stood, with Business 3 saying on improvements, *"I honestly don't think so"*. Business 1 had a query on page 2 of the draft framework relating to "*Why Business?"* as to whether this was a question or a comment, saying "*Is there a question to me that why or are you saying why should a business have"*., they were confused as to what this was telling them. There were also "*concepts that I am not familiar with",* and the definition of water stewardship was a bit unclear in respect of the "*cultural"* element. These queries were addressed during the interview to the participant's satisfaction and considered when developing the Final framework. Business 5 felt "*members need to buy into water saving things*", with members being customers or clients; thus, the framework should consider "*a clause or something on how to educate customers",* with customers and members referring to stakeholders. This is where the pamphlet would come into effect and the small business owners could provide copies of the framework to educate the stakeholders or customers/clients of their own businesses. Business 7 said that *"focusing on awareness and that doing good feeling"* could go a long way for all businesses. It is hoped that this would be an incentive for businesses to support the water stewardship framework and educate stakeholders by providing copies of the framework to others and setting an example.

4.9.4. Implementation by Small Business

The businesses were asked whether they thought a water stewardship framework would benefit them and ensure the successful implementation of water stewardship practices. All businesses were in agreement here that a framework would be beneficial to them to guide them in the process of ensuring the successful implementation of water stewardship in small business operations. However, while Business 4 was in agreement with this, they said for their particular industry, being a provider of purified water and beverages, it would not be beneficial because they rely on poor quality water and lack of water supply. The businesses made the following

comments on implementation: Business 1, on whether small business should play a larger part in the implementation of water stewardship, said "*Yes, of course, that's where it starts. Smaller businesses set the example";* Business 3 said "*Yes, I think so. I think they could benefit from it, as we do tend to take what comes out of the tap for granted sometimes",* and Business 5 said, "*Absolutely. I think it really can [however] it all depends on the person and the business".*

4.9.5. Format of Framework: Pamphlet or Booklet

On revising Version 1 of the draft water stewardship framework after the interview process, a pamphlet format was found to be unsuitable. This was because it was becoming cluttered with further information based on the suggestions received from the small business owners. This made it look messy and unprofessional. During the interview process, Version 1 was often referred to as a pamphlet as it was five pages and this was the original intention for the distribution of a framework to small business. The Final Water Stewardship Framework for Small Business presented in Chapter 6 (Section 6.1.1), was designed in the format of an A5 booklet which was considered a more suitable, professional format for business. The booklet format was able to take into account the further information received from the interviews and increased page size, making a professional booklet for distribution to small business and other stakeholders.

Before finalisation in booklet format, it was sent to the research participants by e-mail for comments and suggestions. The participants were also asked two further questions relating to the revised format of the framework. These questions were: (1) Would you prefer to receive an A5 booklet or a pamphlet? And (2) Which one of these (booklet or pamphlet) are you likely to discard?

The responses received indicated no further comments or suggestions for improvements to the final framework. In terms of question one, most of the businesses did not mind which format the framework was received in, with one business even suggesting an electronic copy would be preferable. This was a very valid contribution, especially with the way the world is moving in technological advances and towards Artificial Intelligence (AI), and in keeping with the theme of sustainability. For question two, it was found most likely that a pamphlet would be discarded or lost. Thus, the final framework was developed as an A5 booklet which could be distributed in printed format or electronic format.

CHAPTER 5: RESEARCH DISCUSSION

This chapter will compare and contrast the research findings from the interviews, as discussed in Chapter 4, to the literature and make a conclusion on the relevance of the findings based on the similarities and differences found in the literature to come to relevant conclusions.

5.1. UNDERSTANDING WATER STEWARDSHIP

5.1.1. Water Awareness

It is clear from the findings that the seven businesses interviewed had a limited scope on the wider issue of water challenges, especially those related to climate change and the growing population, which contribute to the global water crisis.

While the awareness of the global water crisis is on the increase, there is, unfortunately, still much more that needs to be done to ensure a future water supply; this is especially true in the South African context (van der Vyver, 2016). This is in agreement with the small businesses' lack of awareness of the global water crisis, where their awareness was limited to their local context and infrastructure failure, as discussed in Section 4.4.1 and not a global picture of the real water situation.

World Water Day (WWD) has been celebrated annually on 22 March since 1993 and is a global awareness campaign to tackle the water crisis (Neno, 2012), focusing on a different theme annually. At the time of writing this thesis, this campaign has thus been running for 29 years, with the theme for 2022 being “Groundwater – Making the Invisible Visible” (World Water Day, 2022: p.1). On WWD in 2012, Coca-Cola released their fifth annual Global Water Stewardship and Replenish Report. This detailed how they improved their water performance and managed their water resources to deliver water for health and wellness (The Coca-Cola Company, 2012). Thus, this is contrary to the research’s findings on the lack of awareness of global water challenges, because there is an actual campaign and day set aside to promote awareness of global water issues every year. This would indicate that awareness is not filtering down to small business, hence their lack of awareness, which is confirmed by Coca-Cola, a large organisation being aware of WWD.

Water and sanitation touch people’s lives on a daily basis, yet they do not get the attention they deserve to address serious global concerns (World Bank, 2017) of overpopulation and lack of safe water. There are many large organisations, such as the United Nations (UN), the WHO,

UNICEF, the World Bank and many others who bring attention to the critical need for water and sanitation for the growing population (Fanute, 2018). Despite these efforts, there are 785 million people globally who lack safe, clean drinking water (World Vision, 2022) and over 800 children die a day from dirty water (World Vision, 2022). Creating awareness of the water problems is one way to foster responsible water use, which is fundamental to social and economic well-being (van der Vyver, 2016). Despite the recognition of the central role water plays in social, economic and environmental development, there is still insufficient awareness (IFAD, 2019) of the benefits and its importance, which hampers progress (IFAD, 2019). This is a clear indication of a serious global crisis, where the lack of awareness is hindering its progress at being effective and successful. This is in agreement with this research's findings on small business having a lack of awareness of the bigger picture of water issues as it relates to population growth and water scarcity and quality, and that it is not just a local and infrastructure issue.

Climate change and its impact on the world's water supply are complex. People need to learn how climate change affects the water supply in their specific region and start taking local action to start creating awareness to address challenges (Fecht, 2019). Consumer awareness and private sector initiatives are urgently needed to move towards sustainable use of water because the growing scarcity of water due to increased water demand and climate change are major risks for the global economy (Hoekstra, 2014). This is in agreement with the findings that small businesses are not aware of the bigger picture, being the impact climate change is having on scarce water resources, and this awareness needs to filter down to them so that they can make their contribution towards using water sustainably.

These are a few reasons why global water challenges were included in Version 1 of the draft water stewardship framework, to make small business aware that water challenges are not only a local issue but a worldwide issue, with many different causes contributing to water becoming a scarce resource and affecting business operations. How can small business fix the water problem if they are not even aware that there is a serious global water crisis? To ensure a future water supply, small business needs to be made aware of the wider global water-related issues and concerns, so they can tackle them effectively.

Global awareness was included in the WSF4SB (Water Stewardship Framework For Small Business), with no changes or adjustments.

5.1.2. The Concept of Water Stewardship

The research findings indicated that only one of the seven small businesses interviewed was aware of the water stewardship concept.

There was little research available on water stewardship frameworks for small business, where water stewardship is a relatively new concept, with limited academic research available, especially for small businesses (e.g. Cristofoletti, 2017; Fraser and Kunz, 2018; Rozza et al., 2013; Sojamo, 2015; Walsh and Dowding, 2012). This is evident from reviewing the literature, which indicates that within the last decade, there has been an increase in efforts by the United Nations to promote the sustainable development of water (United Nations, 2021a). However, some literature is available on the understanding and adoption of water stewardship practices for larger and corporate organisations.

Nestlé, a global company, established over 150 years ago, is the world's largest, most diversified food a beverage company (Nestlé Global, 2022). They launched their water stewardship program in 2013 in an effort to reduce, reuse and recycle water in their operations (Matthews, 2015).

Coca-Cola, another international company established 136 years ago, is the world's largest non-alcoholic beverage company (The Coca-Cola Company, 2022). They launched their water stewardship program in 2007 with a commitment to "safely return to nature and to communities an amount of water equivalent to what is used in all its beverages and production by 2020" (The Coca-Cola Company, 2012, p.1).

PepsiCo, also a global company, established in 1965, but with roots going back to 1898, is a global leader in convenient foods and beverages (PepsiCo, 2022). PepsiCo has a comprehensive and ambitious global water stewardship strategy (PepsiCo, 2016) and has been making continued progress in its efforts since 2006 (PepsiCo, 2016). Their strategy is "to help protect and conserve global water supplies and provide people access to clean, safe water to communities around the world" (PepsiCo, 2016, p.1).

These large, multinational businesses (Nestlé, Coca-Cola and PepsiCo) are all water-intensive businesses, which would be in agreement with the finding that Business 6 was aware of the concept because they are also a water-intensive business, as discussed in Section 4.3.3 and displayed in Table 2.

Suppose these large, well-established businesses have only started implementing water stewardship practices within the last decade. In that case, this is an indication that water stewardship is not a practice that small businesses are familiar with or even implement. This could be because they are either not aware of water stewardship, or it has possibly not yet filtered down the line to the small businesses. This agrees with the finding that small businesses are unaware of the concept of water stewardship (Section 4.4.2). In light of this, a further section was added to the WSF4SB on page 3 and page 4 (Chapter 6, Section 6.1) to provide more of a background of how water stewardship evolved.

5.1.3. Definition of Water Stewardship

The findings on the understanding of the AWS (2021) definition as contained in Version 1 of the draft framework varied. Some businesses felt the definition was self-explanatory, and others felt confused and did not have a clear understanding of the definition.

The literature contained many definitions of water stewardship (Water Footprint Network, 2021; United Nations Industrial Development Organisation, 2021; Howard, 2022; WWF, 2018), with the AWS (2021) definition being the most widely used and cited definition (Waldhuetter, 2022; Howard, 2022; The Water Council, 2022).

Acknowledging that there is no universally agreed upon definition of water stewardship (WWF, 2013), but that definitions are important because they allow us to obtain a common sense understanding of the subject matter (Whitfield, 2012), providing direction. This is in line with the findings where some of the businesses felt the definition was self-explanatory, likely being that it provided them with a common-sense understanding.

Although the sample businesses felt the definition to be confusing or unclear, this can be considered normal and even necessary, especially when learning something new or confronted with new information (Kennedy and Lodge, 2016). Confusion is an emotion which is associated with the development of our knowledge and our understanding (Kennedy and Lodge, 2016). Thus, this explains why some of the businesses may have felt confused or unclear on the definition because it was a new concept to them. Their confusion thus stemmed from trying to develop an understanding of the new information contained in the definition.

Version 1 of the draft framework required a conceptual definition to provide meaning and understanding to the term water stewardship. The AWS (2021) definition was considered

suitable to be used in Version 1 of the draft water stewardship framework because it was the most comprehensive and popular definition, likely to provide a common-sense understanding. Despite the confusion about the definition from some businesses, any other definition would likely not have resulted in a different outcome; thus, the AWS (2021) definition was considered to be a suitable definition of water stewardship for the WSF4SB presented in Chapter 6 (Section 6.1.1).

5.2. WATER QUALITY AND QUANTITY

The research findings were unanimous, and all businesses were affected by either water quality or water quantity or both to varying degrees. These water risks affected them sufficiently to cause concern on how it affects their business operations. Business 4 was however an anomaly because it was essential to their operations to have poor-quality water and an erratic water supply; the other six businesses required improvements to water supply and quality for their operations.

Safeguarding water and ensuring that it is available in sufficient quantity and quality is of vital interest to businesses (Hutton, 2015). Water shortages can disrupt business operations, limit production, cause conflict with other water users and harm reputations (Hutton, 2015). Coca-Cola admits that without water, they would have no business at all because their operations rely on vast supplies of water (War on Want, 2007). Water is the primary ingredient in every Coca-Cola product and fundamental to all its supply chains, with the perception given that the company is a large water consumer (Carmichael and Moriarty, 2018). This is in line with the findings that business owners should rightly be concerned if their water supply be disrupted, because it could result in closure of their operations.

Poor quality water threatens economic growth, has harmful health implications and can threaten food security, also known as the "invisible water crisis" (World Bank, 2019, p.1). The "invisible water crisis" brings attention to the hidden dangers beneath the water's surface, the pollutants that impact the water quality and affect human well-being and sensitive ecosystems (World Bank, 2019). Coca-Cola obtains their water from numerous sources, one of which is municipal sources. They, however, use a treatment process on their water supplies that "creates a consistent pure, clean and crisp taste" (Felton, 2020). It also demonstrates that the quality of water is an important factor to consider because Coca-Cola treats their water before using it in its products. This makes one think about the safety of municipal water and its negative impact.

This is in line with the findings where the businesses said water quality affected operations and confirms why Business 4 remains in operation.

According to Woolworths, "a constant supply of clean water is essential to our value chain, from the growing of commodities to the manufacture and sale of our products" (Woolworths Holdings Limited, 2022b, p.1). This is in agreement with this study's findings, where water quantity and quality are shown to affect business operations.

Virgin Active is a leading global health and fitness club, with South Africa having over 140 branches (Cassim, 2019). The branches in the Western Cape have been experiencing many water-related challenges due to the severe drought that has been occurring throughout this region for some time (Cassim, 2019). This has been affecting their operations, and thus have had to undertake "extensive measures to save water and sustainably maintain operations under water-scarce conditions and austere restrictions" (Cassim, 2019, p.1). This is in agreement with this study's findings, showing the negative effects of climate change on business operations as well as that a shortage in water supply (quantity) can have a negative effect on operations. This also ties in with financial risk (Section 5.3), due to the extra costs incurred to put measures in place to mitigate the impact of water shortages and prevent the loss of customers. In the long term, however, these mitigation measures could have a positive effect on business. For example, Virgin Active in the Western Cape had to invest over R 24 million on "an extensive range of technological, behavioural and process-related interventions to reduce and save water" (Cassim, 2019, p.1); this could be taken to be a negative financial risk (Section 5.3). However, the installation of these inventions has also resulted in positive financial outcomes or savings, with water usage being reduced by 62%, saving 12 586 kilolitres of water and a monthly municipal saving of R 1 243 496 (Cassim, 2019) and a constant supply of good quality water.

It is clear from the findings, that all seven businesses require water daily to perform operations and earn an income. Water quality (good or poor) and quantity (more or less) are important factors for businesses to take into consideration in their daily operations to prevent disruptions and possible closure of operations.

Hence the reason why it is important to understand and assess the businesses' direct water use and the negative and positive impacts this will have on business. The was included in Version 1, with no changes to the WSF4SB and is reflected on page 8 of the WSF4SB in Chapter 6 (Section 6.1).

5.3. NEGATIVE EFFECTS ON BUSINESS: FINANCIAL RISKS

Six of the seven businesses agreed that the lack of water or poor water quality (or both) leads to operational and income challenges, resulting in financial losses. Business 7, however, said this would not affect their operations or income, due to the majority of their work being done remotely. Business 4 was again an anomaly, relying on poor quality water and a lack of water supply to customers, to earn an income.

Financial risks are seen mainly through increased costs or lost revenues, which can result from diminished water, scarcity or pollution, or the mismanagement of water resources (CEO Water Mandate, 2022d). For example, water scarcity and pollution can result in higher water prices, and the need to buy water from other sources at increased prices. An unreliable water supply can cause production and service disruptions which affect the customer base and the business's brand (CEO Water Mandate, 2022d). Stakeholder perceptions of the business's management of scarce water resources can also have a negative financial impact, because other companies may not want to do business if they perceive certain businesses to be doing nothing to protect water resources. All these problems can singularly or combined have a significant effect on the profitability of business operations (CEO Water Mandate, 2022d). According to Woolworths, it is important to understand water risks and their impacts to ensure the sustainability of operations (Woolworths Holdings Limited, 2022b). This is in agreement with the research findings that water risks create negative impacts on operations and can have long-term effects on business.

For the insurance industry (as Business 7), losses can be seen from different viewpoints. These might not be actual financial losses for the business or agency itself, but losses as a result of an increase in insurance claims and pay-outs due to customers' water problems. For example, geyser problems due to them burning out when not filled with water lead to increased claims and potentially increased premiums (South African Insurance Agency (SAIA), 2018).

There could also be delays in settling insurance claims as a result of a drought due to a lack of water. This will not negatively affect the insurance company itself, but the other businesses or individuals making the claims against the insurance company (SAIA, 2018), the insurance company's clients or agents appointed by the insurance company. This is likely to occur in building claims and vehicle repairs, “where water is an integral part of the repair of build process” (SAIA, 2018, p.1), in mixing cement or spray painting. This demonstrates that there

is also an indirect link of financial risk for other businesses and customers associated with your business operations, due to impacts caused as a result of water shortages.

Water is important in our everyday lives and can have a negative financial impact on all businesses because it will impact society in general. For health, it prevents dehydration and regulates and protects the human body to maintain physical performance and energy levels (Velayutham, 2019). For growing food in agricultural processes, water is needed for growing fruit and vegetables and raising livestock (Centre for Disease Control and Prevention (CDC), 2018), which are all essential ingredients for the human diet. A loss in agriculture production can result in food shortages, increasing the costs of food items and destroying livelihoods (Sentlinger, 2022). Providing sanitation for health and hygiene to prevent illness and disease is also very important. (UNICEF, 2022). All business employees are members of society in general and are employed by businesses to assist them in running business operations. The impacts discussed above can have a negative effect on employees who may become ill and be off work or unable to perform their duties to a high standard due to hunger as they can no longer afford the increased cost of food. This will indirectly have a negative financial effect on business as operations decrease due to staff shortages or errors. Thus, it is important for business to understand the indirect impacts of water to mitigate financial losses associated with them.

Global companies are losing billions as a result of the water crisis, and much more is at risk (Carbon Disclosure Project (CDP) Worldwide, 2022). Most of the small businesses interviewed agreed that water can cause negative financial impacts on business operations; hence, identifying risks was extremely important. This was included in Version 1, and this was not changed and kept in the WSF4SB.

5.4. TRIPLE BOTTOM LINE AND COMPETITIVE ADVANTAGE

The seven participants of this research study were not in agreement on this section, and the responses varied. Some felt it would be a competitive advantage to implement water stewardship practices and others said ‘no’, it would not be a competitive advantage, with Business 4 saying it would be a disadvantage.

In a world where profits are emphasised as important, the triple-bottom-line approach may seem rather idealistic (Miller, 2020). However, businesses have shown over and over again,

that it is possible to do well by doing good, either for society or the environment or both (Miller, 2020). The triple bottom line does not value societal and environmental impacts at the expense of financial profit (Miller, 2020); financial gains and benefits are reaped by committing to sustainable business practices (Miller, 2020). It would thus seem that businesses can make money and do the right thing at the same time (Miller, 2020). This is in agreement with those businesses who felt it would be a competitive advantage to implement water stewardship practices and affect their triple bottom line, as discussed in Chapter 4 (Section 4.6). As previously discussed in the case of Virgin Action, Western Cape, in Section 5.2, this example also nicely demonstrates the triple bottom line approach for business.

The triple bottom line (TBL) is the benchmark to be achieved by all business, caring about the environment and social responsibilities and not just profits (Gupta, 2018). For example, IKEA, a Swedish furniture company founded in 1943, has evolved from a small Swedish business to a reputed global home furnishing brand and is recognised as a company that "adds zero waste to landfill" (Gupta, 2018, p.1). IKEA managed to raise its sales in 2016 by recycling its waste materials, the remnants left from the main products, and turned them into top-selling products (Gupta, 2018). IKEA demonstrates that even when a small business (started as such in 1943), by taking TBL considerations into account, one can obtain a competitive advantage, grow into a global company and still make a profit while looking after the environment and society. The WSF4SB should be able to have the same effect of providing a competitive advantage for small business, even though some of the businesses did not agree with this.

5.5. STAKEHOLDER AWARENESS AND TRAINING

All businesses were in agreement that awareness, training and education were important to bring attention to the global water crisis and water stewardship practices to work together to help fight and save scarce water resources.

Unilever is an excellent example to demonstrate the importance of stakeholder awareness and training because "water is core to our business" (Royal Haskoning DHV, 2022, p.1). They recognise that water is a precious resource and the impact it has on their business operations and has, over the last 10 years, made conscious decisions to reduce their water footprint, which has been included in their Sustainable Living Plan (Royal Haskoning DHV, 2022). This demonstrates Unilever's awareness of the global water crisis, and by documenting it in their Sustainable Living Plan, brings it to the attention of internal and external stakeholders to

Unilever. They also try and inspire consumers to change their behaviour and adopt sustainable products by making data and resources available to them (Royal Haskoning DHV, 2022), creating awareness and promoting change informally. Unilever gives priority to water-stressed sites by tracking their performance and providing training and have developed a portal for sharing best practices to improve water use in all their sites (Royal Haskoning DHV, 2022). These are just a few of the ways, there are many more, that Unilever is demonstrating that stakeholder awareness and training are essential to combating the global water crisis. It is for this reason that this was included in Version 1 and the WSF4SB.

5.6. IMPLEMENTATION OF FRAMEWORK BY SMALL BUSINESS

A framework can be defined as "a supporting structure of guidelines and boundaries to achieve a specific goal" (Tanner, 2020, p.1). The guidelines assist businesses in achieving short-term and long-term goals with success. It would seem that Version 1 of the draft water stewardship framework for small business meets this definition. As such, it will be a benefit to small businesses to implement it to help them reach their goals in respect of water stewardship and saving scarce water resources, making their contribution to the global problem of the water crisis. As discussed in Chapter 4 (Section 4.6), all businesses felt implementing the water stewardship framework could give small businesses a competitive advantage; even Business 4 (in the purified water industry), who would not implement it in their own operations. They were an anomaly to the other businesses where they relied on quality and quantity water problems to earn an income.

5.7. THE FUTURE

All the businesses were in agreement that it was not too late to save the planet's scarce water resources for future generations and that water stewardship practices would go a long way to helping in this fight, as discussed in Chapter 4 (Section 4.8).

The United Nations 2030 Agenda for Sustainable Development is a plan for transforming the world for the better (United Nations Department of Economic and Social Affairs, 2022), launched in 2015. It is a plan of action for people, planet and prosperity, with goals and targets for stimulating action over 15 years, in areas of critical and urgent need to attempt to manage resources to support current sustainably and future generations (United Nations Department of

Economic and Social Affairs, 2022). Water is considered to be one of the resources that is of critical importance, requiring urgent attention due to its scarcity. As discussed in Chapter 4 (Section 4.8), all seven business owners felt that it was not too late to protect and save our scarce water resources for future generations and that the implementation of water stewardship practices would help with this.

Patagonia is a company that is working hard to remedy their past mistakes because "the future requires that we find new ways to reduce our water and energy footprints" (Unmacht, 2012, p.1). This is in agreement with the findings of the seven businesses, that it is never too late to make a difference and start protecting scarce resources for future generations.

5.8. CONCLUSION

This research study has revealed that small businesses are not familiar with the concept of water stewardship, and they lack awareness of the broader global water challenges and water crisis. Version 1 of the draft Water Stewardship Framework for Small Business was well received by all businesses and created awareness and interest. The implementation of a water stewardship framework for small business could be very beneficial to them, as it gives them something to think about and consider to improve their business operations to take them sustainably into the future. Water Stewardship practices would definitely provide them with a competitive advantage, thus having a positive effect on their financial profits as well as assisting in contributing towards a triple bottom line approach for the business as a whole, incorporating society and the environment benefits, thus protecting the scarce water resources for future generations.

CHAPTER 6: CONCLUSION

This chapter begins by recommending the final water stewardship framework for small business (WSF4SB), it then provides considerations to be taken into account by small business for adopting and implementing the WSF4SB, briefly discusses some limitations of the study and recommendations for further research. Then concludes with a high-level summary of the research findings and a conclusion.

6.1. RECOMMENDATIONS

6.1.1. DEVELOPOMENT OF THE WATER STEWARDSHIP FRAMEWORK FOR SMALL BUSINESS (WSF4SB)

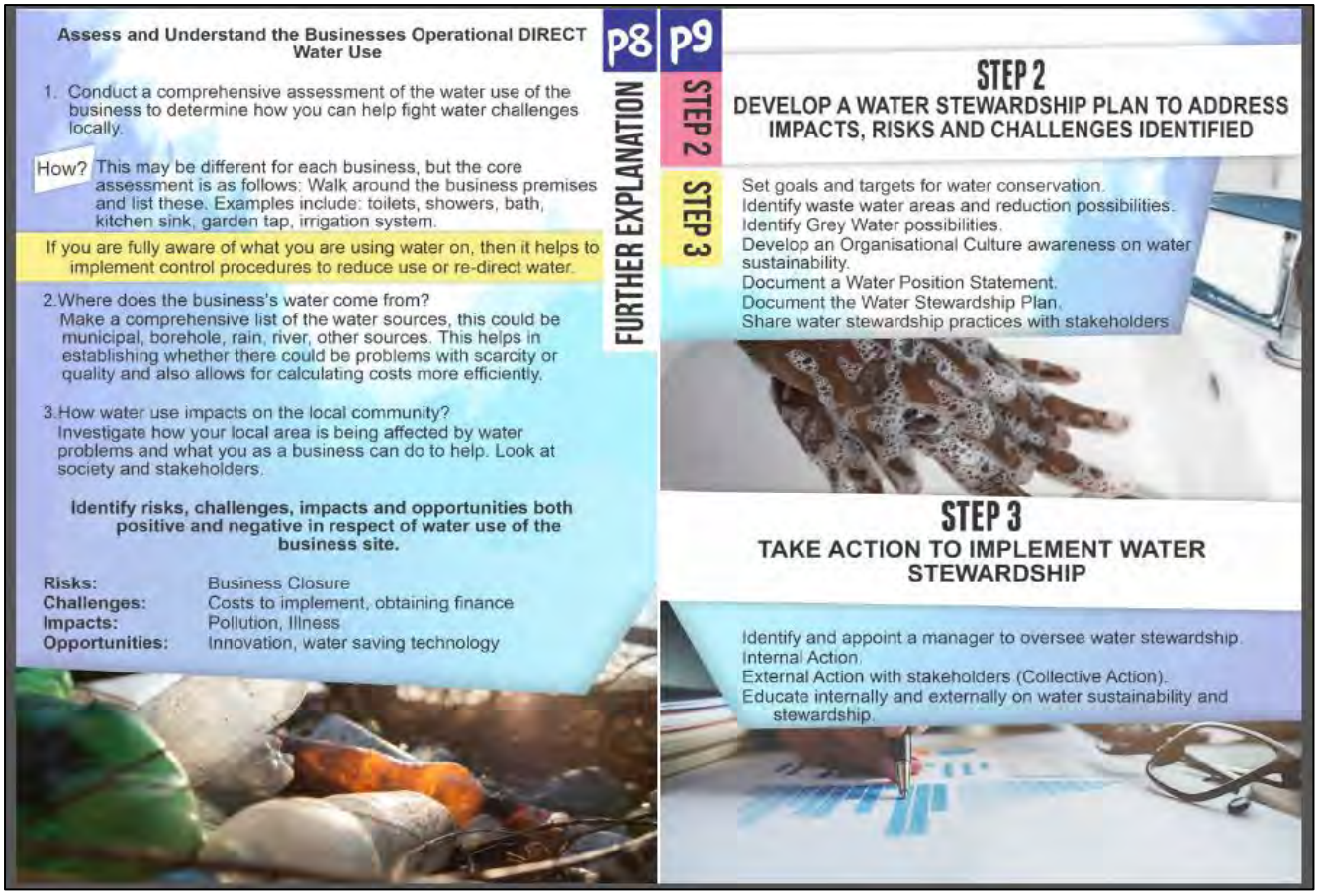
Due to the confusion and the lack of awareness on the concept of water stewardship, the framework was adjusted to add in some information and definitions on stewardship, the environment, water and water stewardship so business had more of a background, understanding and clarity and in trying to give more motivation to implement water stewardship practices. These adjustments are on pages 4 and 5 of the WSF4SB. Further information was added on pages 11 and 12 of the WSF4SB, to provide some useful tips and where businesses can find certification if required.

The WSF4SB became very cluttered as a pamphlet with these adjustments, so an A5 booklet was developed, and this was also more user-friendly. It could be printed in booklet form or an electronic version as a pdf document. This was discussed with the business by e-mail, and the format of the framework was preferred as a booklet or electronic document. The WSF4SB is located on the next page, Figure 11 or see Appendix E.

6.1.2. THE WATER STEWARDSHIP FRAMEWORK for SMALL BUSINESS (WSF4SB): A5 Booklet

Figure 11: Front Cover and Page 1 to 3 of The WSF4SB

Figure 11 continued: Page 4 to 7 of The WSF4SB



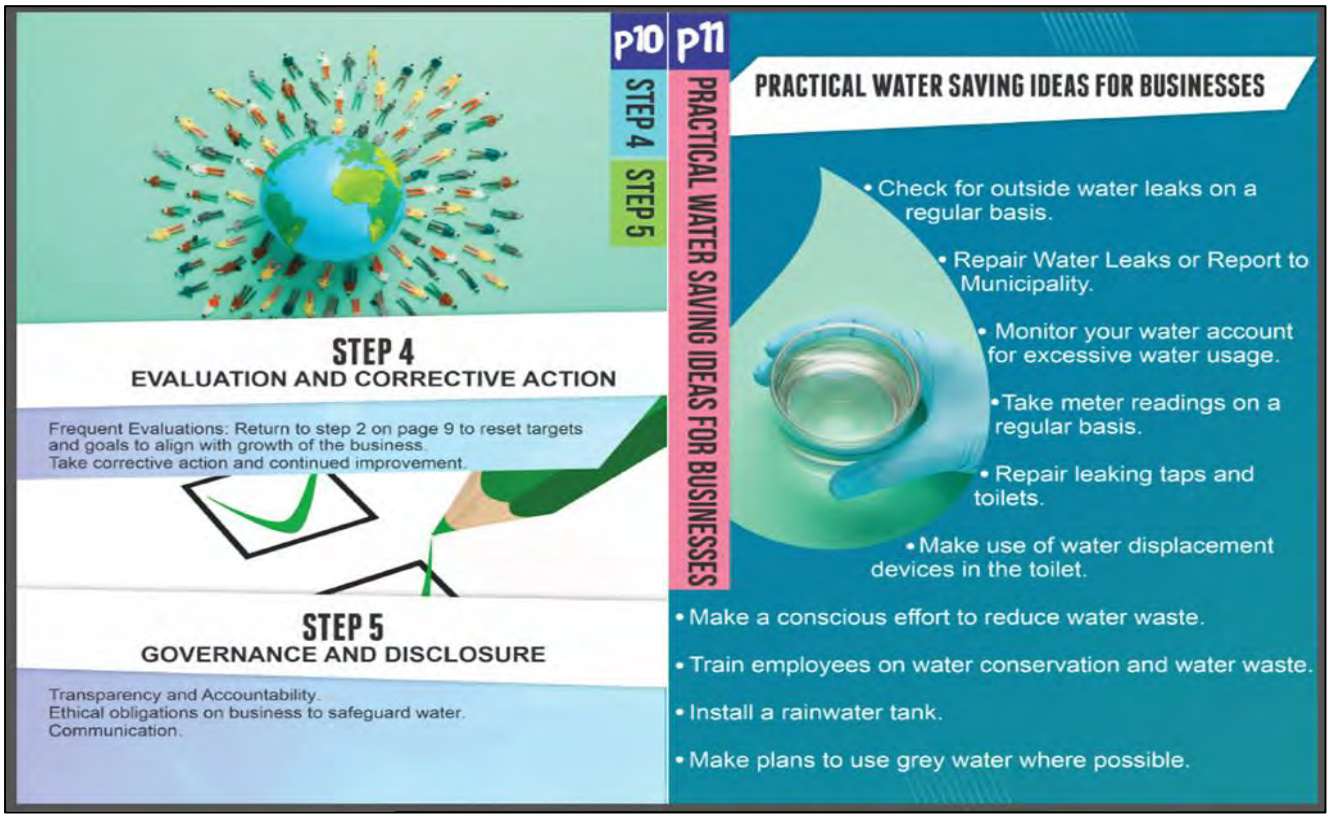


Figure 11 continued: Page 8 to 11 of The WSF4SB

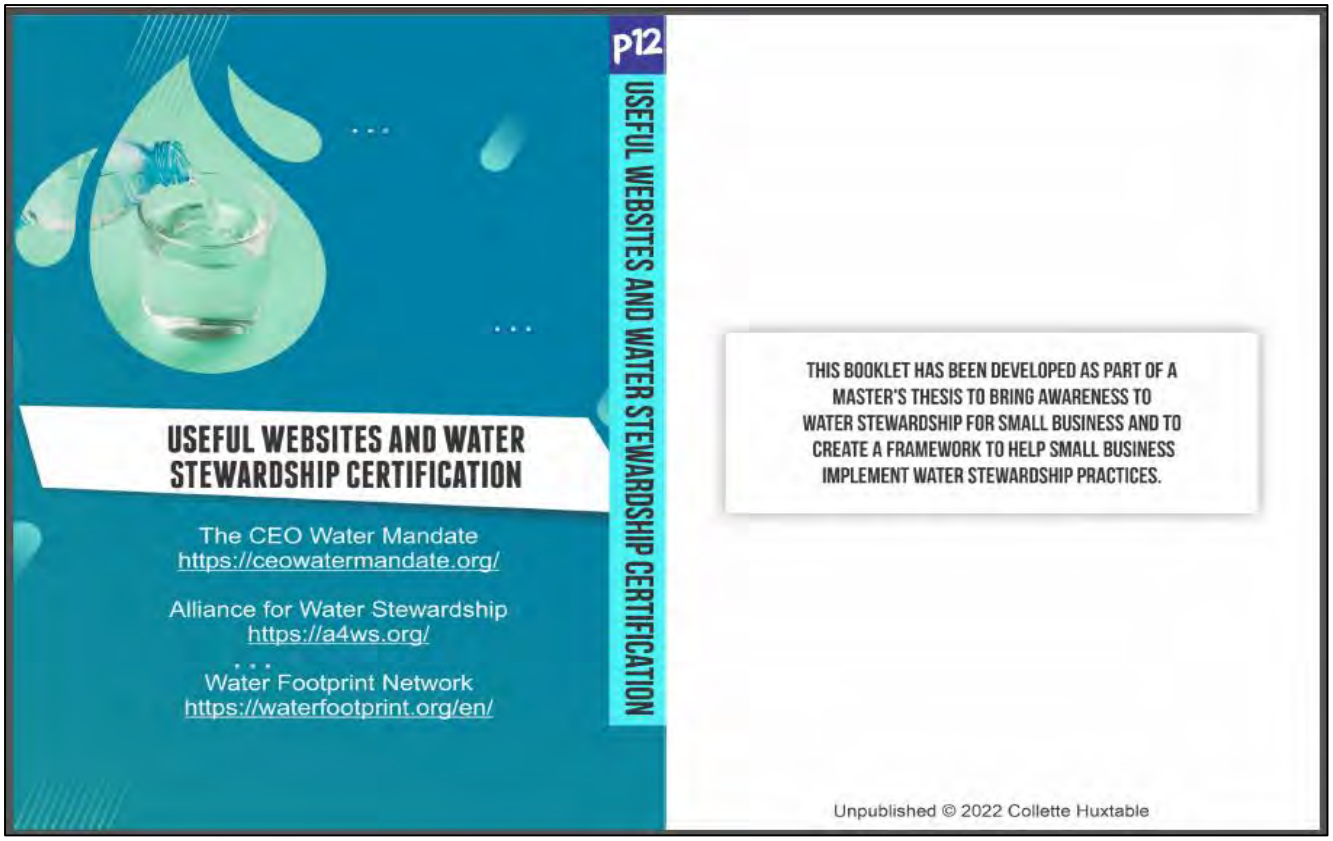


Figure 11 continued: Page 12 and Back Cover of The WSF4SB

6.1.3. CONSIDERATIONS FOR ADOPTION AND IMPLEMENTATION OF THE WSF4SB

Be aware that water stewardship is probably not a concept that many people are familiar with, so the WSF4SB might need to be adapted to include specific contextual issues for a specific region or town. Exercise patience and care, as the implementation of successful water stewardship practices, does not happen overnight. This should be considered a long-term plan for a small business, so they should not give up on the first hurdle, but instead persevere, since the end goal is important for the future. Businesses should remember to include their employees in the water stewardship process – these internal stakeholders are extremely important in ensuring its success. It's important to provide education and training to staff, and a two-way dialogue for their valuable input.

The intention of the booklet was a simple "road map" to assist small business to implement water stewardship practices. All businesses felt that the booklet would add value to the implementation of their water stewardship practices and that other small businesses could use it successfully. The step type approach also stood out to all businesses as appropriate.

6.2. LIMITATIONS OF THE STUDY

The research sample was a small local sample of small businesses in Makhanda, so the results cannot be generalised to an entire population of small businesses based in other regions. It should however be noted that it is possible to replicate this study for other regions, providing for further awareness of water stewardship. However, the findings and outcomes from this study fill an important gap in the literature and support their sustainability practices. It provides an easy-to-read document with guidance for implementation, from where any small business (or even large) organisations can start to improve their water stewardship practices.

6.3. RECOMMENDATIONS FOR FUTURE RESEARCH

Some areas for further research which came through from the interview process are as follows:

(1) What impact do boreholes have on the water supply, who has the right to this groundwater and how is this affecting small businesses' operations and the implementation of water stewardship practices?

(2) The use of grey- and black water at small businesses to assist with water stewardship initiatives.

(3) The municipality's roles in water stewardship practices and helping small business.

(4) Contamination of boreholes and its impact on water supply and water stewardship practices.

Some areas of further research that came from reviewing the literature are as follows:

(1) The lack of monitoring and evaluation of water stewardship initiatives.

(2) How innovations in technology will advance water stewardship and build resilience worldwide.

(3) The impacts of water challenges on everyday living (e.g. food and fuel) and how these affect business operations.

Overall, this research also highlighted the importance of an easy-to-follow, step-wise approach to understanding and managing an organisation's water stewardship practices. Therefore, further supporting documents, guidelines or training initiatives could be developed for small

businesses to further help them understand their role, impact and opportunities for improved water stewardship.

6.4. SUMMARY OF FINDINGS AND ALIGNMENT WITH RESEARCH OBJECTIVES

As a reminder of this study's research aims and goals, they are noted below:

Develop an approach-specific water stewardship framework for implementation by small businesses, based on a review of the literature. The objectives identified were as follows:

1. To develop a draft water stewardship framework for small businesses based on the literature.
2. To assess the suitability and practicality of the draft framework with small businesses in Makhanda (South Africa).
3. To refine and recommend a water stewardship framework for adoption and implementation by small businesses that can facilitate their sustainable competitive advantage.

From the above, it is clear that the objectives of this research study were to develop a draft water stewardship framework for small businesses based on the literature and then to assess the suitability and practicality of the draft framework with small businesses in Makhanda (South Africa). These objectives were met by conducting a literature review, whereafter Version 1, a draft water stewardship framework for small business was developed (See Figure 10). Small business owners were then interviewed to gather insights from their perspective on the suitability and practicality of Version 1 for implementation by small business. The final objective was to refine and recommend a water stewardship framework for adoption and implementation by small businesses that can facilitate their sustainable competitive advantage. This objective was met with the recommendation of the WSF4SB for use by small business (See Figure 11).

Only time will tell whether the WSF4SB actually provides the sustainable competitive advantage for small business it was developed to achieve, with future generations reporting this success. It is quite clear that sustainability practices and corporate social responsibility (CSR) practices in today's competitive world are "no longer an option; it is a necessity" (Hiatt and Nicholos, 2022, p.1). Stakeholders want to do business with those companies that are

leading the way in reducing their negative environmental and social impacts (Hiatt and Nicholos, 2022). “Environmental projects are proving their value to the bottom line” (Hiatt and Nicholos, 2022, p.1), across the different industries, showing that “reducing environmental impacts often means reducing costs and risk by increasing efficiency and brand value” (Hiatt and Nicholos, 2022, p.1). For business, sustainability is about doing business that does not negatively impact the environment, community or society as a whole (Spiliakos, 2018). It is an important initiative because it can assist with helping resolve global challenges, and it can also drive business success, improving financial performance and promoting public support (Spiliakos, 2018).

Water should be the priority discussed around every boardroom table of every company in the world, because managing water better, is a key opportunity for business to create and develop a competitive advantage (Skordoulis, Galatsidas and Arabatzis, 2017). Implementing water resource management is not an easy task; there are many factors to consider (Kasim et al., 2014) and often more difficult for SMEs due to internal and external barriers (Kasim et al., 2014). Only when water resources are managed better will business secure their license to operate, reduce their financial losses, and ensure continuity of operations (Skordoulis, Galatsidas and Arabatzis, 2017; WBCSD, 2018), ensuring their own sustainably supply of water (Kasim et al., 2014). Businesses investing in sustainable water management practices are provided with opportunities to gain a competitive advantage (WBCSD, 2018). They are demonstrating that when sustainability practices are adopted by business, such as water management or natural resource management, it gives them the ability to operate more efficiently and thus develop a competitive advantage (Skordoulis, Galatsidas and Arabatzis, 2017). Based on this, there is no reason to doubt that the adoption and implementation of the WSF4SB by small business should improve their operational efficiency and provide them with the sustainable competitive advantage it was designed to do. Making a contribution to protecting global water resources provides a win-win opportunity.

Companies that place their focus more on water management in the future will ensure an increase in their operating and earning potential (Vestvik-Lunde, 2015). This stems from the fact that environmental accidents and damage are reduced, and organisations benefit from improvements in their performance - due to an increase in financial savings and ultimately contribute to their competitive advantage (Vestvik-Lunde, 2015). Organisations that move “beyond corporate social responsibility [can] gain competitive advantage by including social and environmental considerations in their strategies” (Kramer and Ptitzer, 2016, p.1).

It should be recalled that the NRBV theory works on the principle that "a company's competitive advantage fundamentally depends upon its relationship with the natural environment" (Hart, 1995, p.986). This clearly supports the link between natural resource management and competitive advantage, demonstrating that taking care of the environment and society - by ensuring future water supply and contributing positively to the water crisis - can only have a positive effect on small business operations, the environment and society. Small business should implement water stewardship practices now where "the first to take action will gain a competitive edge, as a result of an increase in financial savings and competitive advantage" (Vestvik-Lunde, 2015, p.1).

The main results of the study show that small businesses were not familiar with the concept of water stewardship, but are willing to implement a water stewardship framework in their operations to assist with the protection of scarce water resources. This also helps in future sustainability efforts and can lead to a competitive advantage by protecting the environment and society.

6.5. CONCLUSION

The world is facing severe water resource constraints, which will make it difficult and costly for businesses in the future to operate and remain competitive. This research study reveals that businesses need to adapt, working together to play an important role in solving the world's water problems, by turning their water risks into a competitive advantage and becoming leaders in the area of water stewardship (Water Footprint Network, 2022). Benjamin Franklin wrote in 1756 that "[w]hen the well is dry, we know the worth of water" (Simpson, 2022, p.1). Therefore, let us not get to this point – and rather act now, by embracing water stewardship practices for small and large businesses, so all organisations can make a concerted effort to protect scarce resources so that there is water for all generations now and in the future. This research aimed to assist in this ideal.

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APPENDIX A: INTERVIEW QUESTIONS

1. For the purposes of my research a small business is defined as a business which employs less than 50 full-time employees. Please can you kindly confirm that you employ less than 50 full-time employees.
2. Have you had a chance to read the framework I provided?
3. Water stewardship is the foundation of my research and it is defined in the framework. Are you satisfied that you have a basic understanding of this concept from what I have provided?
4. As a small business owner were you aware of the concept of water stewardship before I contacted you?
5. Is your business affected more by water quality (pollution) or quantity (amount) or both?
6. Would the lack of water or poor water quality have a negative impact on your business operations? And would it negatively impact on your business operational income?
7. Do you think that water stewardship is a practise a small business should implement?
8. Do you think a framework would benefit a small business and help to ensure successful implementation of water stewardship practices?
9. Is there anything in the framework that you didn't understand that you think I should explain further for businesses to have a better understanding?
10. Is there anything that stood out that you found of interest or liked?
11. Is there anything that you didn't like, that you thought might be impractical to implement and should be excluded?
12. Is there anything that you think should be included based on your own personal experiences of running a business to improve the framework?
13. Would your employees, friends, family or colleagues be aware of the concept of water stewardship?

    Would you be prepared to educate staff, family or friends on water stewardship?
14. Do you think the implementation of a water stewardship framework could create a competitive advantage for a business?
15. Do you think the implementation of a water stewardship framework by business can result in an environmental benefit of saving the scarce resource of water for future generations or is it too late?

APPENDIX B: INITIAL CODES GENERATED FROM RAW DATA

1	Admin
2	Consent
3	Confirmation Framework Read & Understood or Not
4	Years in Business
5	Owner
6	Industry
7	Understand Definition of Water Stewardship
8	Water Stewardship Definition Query
9	Water Use Scale
10	Areas of Water use in the business
11	Business affected by Quality, Quantity or both
12	Negative Effects on the Business
999	Adds no value, comment
14	Water Saving Techniques at Business
15	Municipal inability to supply water
16	Confirmation of Small Business per Definition
17	Bigger picture than just municipality
18	Stakeholder Awareness
19	Stakeholder Training
20	Water Risks
21	Small Businesses Role in Water Stewardship
22	Triple Bottom Line
23	Impractical Parts of Framework
24	Stood out in the Framework
25	Implementation of the Framework by Small Business
26	Improvements to be made to the Framework
27	General Queries to the Framework
28	Challenges for Small Businesses
29	Closing
30	Introduction to research
31	Aware of the concept of Water Stewardship

APPENDIX C: EXAMPLE OF INFORMED CONSENT LETTER SENT TO PARTICIPANTS

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PARTICIPANT INFORMED CONSENT DECLARATION
(To be signed by research participants)

Research Project Title:
A Proposed Management Framework for Water Stewardship for Small Business in South Africa.

Collette Huxtable from the Business School at Rhodes University, has requested my permission to participate in the above-mentioned research project.

The nature and the purpose of the research project and of this informed consent declaration have been explained to me in a language that I understand.

I am aware that:

1. The purpose of the research project is to create a practical water stewardship framework for small business.

2. Rhodes University has given ethical clearance to conduct this research project ***(Ethics Approval Number 2022-5449-6719)*** and I have seen/may request to see the clearance certificate.

3. By participating in this research project, I will be contributing towards creating a successful water stewardship framework for small business. This framework is intended to help assist with the protection and sustainable use of scarce water resources to benefit small business, communities, society and the environment, making a positive contribution towards the Sustainable Development Goals.

4. I will participate in the project by agreeing to reading and analysing the water stewardship framework provided, which has been created from the literature for implementation by small business. I also agree to an interview and at the interview, I will provide critical, practical input on how to improve the framework I have read, based on my experience as a small business owner.

5. My participation is entirely voluntary and should I at any stage wish to withdraw from participating further, I may do so without any negative consequences.

6. I will not be compensated for participating in the research, but my out-of-pocket expenses will be reimbursed.

7. The following risks are associated with my participation: The risk level is considered low because the businesses and participant's will be anonymous and no confidential

Rhodes University, Research Office, Ethics
Ethics Coordinator: ethics-commitee@ru.ac.za
t: +27 (0) 46 603 7727 f: +27 (0) 86 616 7707
Room 204, Main Admin Building, Drostdy Road, Grahamstown, 6139

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financial information is required for input into the research. My input is for the benefit of improving the framework with practical improvements based on my knowledge and expertise of running a small business.

8. The Researcher intends to publish the research results in the form of a mini thesis to meet the requirements for a Master's of Business Administration Degree. However, confidentiality and anonymity of records will be maintained, and my name and identity will not be revealed to anyone who has not been involved in conducting the research, *unless I indicate to the contrary/recognise that as a public figure, my identity will inevitably be/become known in which case I agree to and accept the loss of confidentiality.*

9. In terms of the Protection of Personal Information Act, it remains my right to request the Researcher to provide me with a detailed explanation of exactly how confidentiality and anonymity will be achieved. I may request to know how my personal information will be stored securely, for how long it will be stored, and whether it is likely to be used again in further research.

10. In terms of the Protection of Personal Information Act, I possess the right to receive feedback about this research. This will take the form of e-mail communication once the thesis has been handed in and successfully approved, *unless I elect not to receive feedback.*

11. Any further questions that I might have regarding the research or my participation will be answered by Collette Huxtable and she can be contacted at the following e-mail address [redacted]

12. By signing this informed consent declaration, I am not waiving any legal claims, rights or remedies.

13. A copy of this informed consent declaration will be given to me, and the original will be kept on record.

14. The Researcher has requested that the interviews be voice recorded, to ensure that the interview can be accurately transcribed into a text format to ensure quality and accuracy of the research.

I, ..., have read the above information / confirm that the above information has been explained to me in a language that I understand and I am aware of this document's contents. I have asked all the questions that I wished to ask and these have been answered to my satisfaction. I fully understand what is expected of me during the research.

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Ethics Coordinator: ethics-commitee@ru.ac.za
t: +27 (0) 46 603 7727 f: +27 (0) 86 616 7707
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I have not been pressurised in any way and I voluntarily agree to participate in the above-mentioned project.

In respect of the permission statements below, please **circle the option that you agree to.**

I would/ would not require that anonymity be provided.

I **agree/disagree** to the Researcher's request to take photographs and/or videos of me as part of this research project, recognising that agreement here is likely to raise the risk of compromising my anonymity and that steps will be taken to ensure this does not happen if my approval is granted.

I **agree/disagree** to the Researcher's request to voice record my comments and opinions during interviews, the purpose of which is to ensure the accurate recording of my views. Furthermore, I have the right to request a copy of interview transcriptions to confirm that my opinions are accurately recorded.

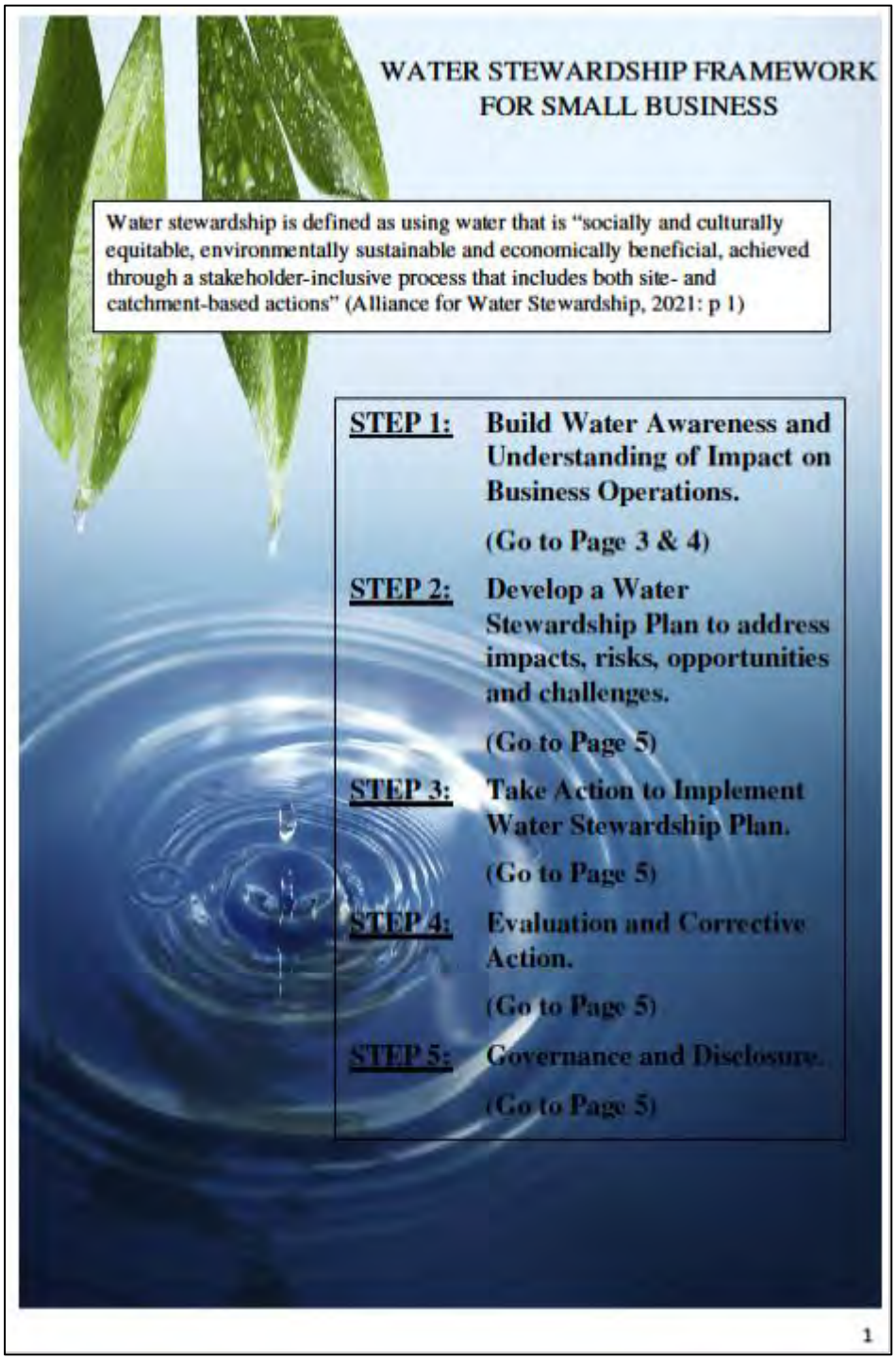
I do/ do not want a copy of the full mini thesis once it has been completed and successfully reviewed by Rhodes University.

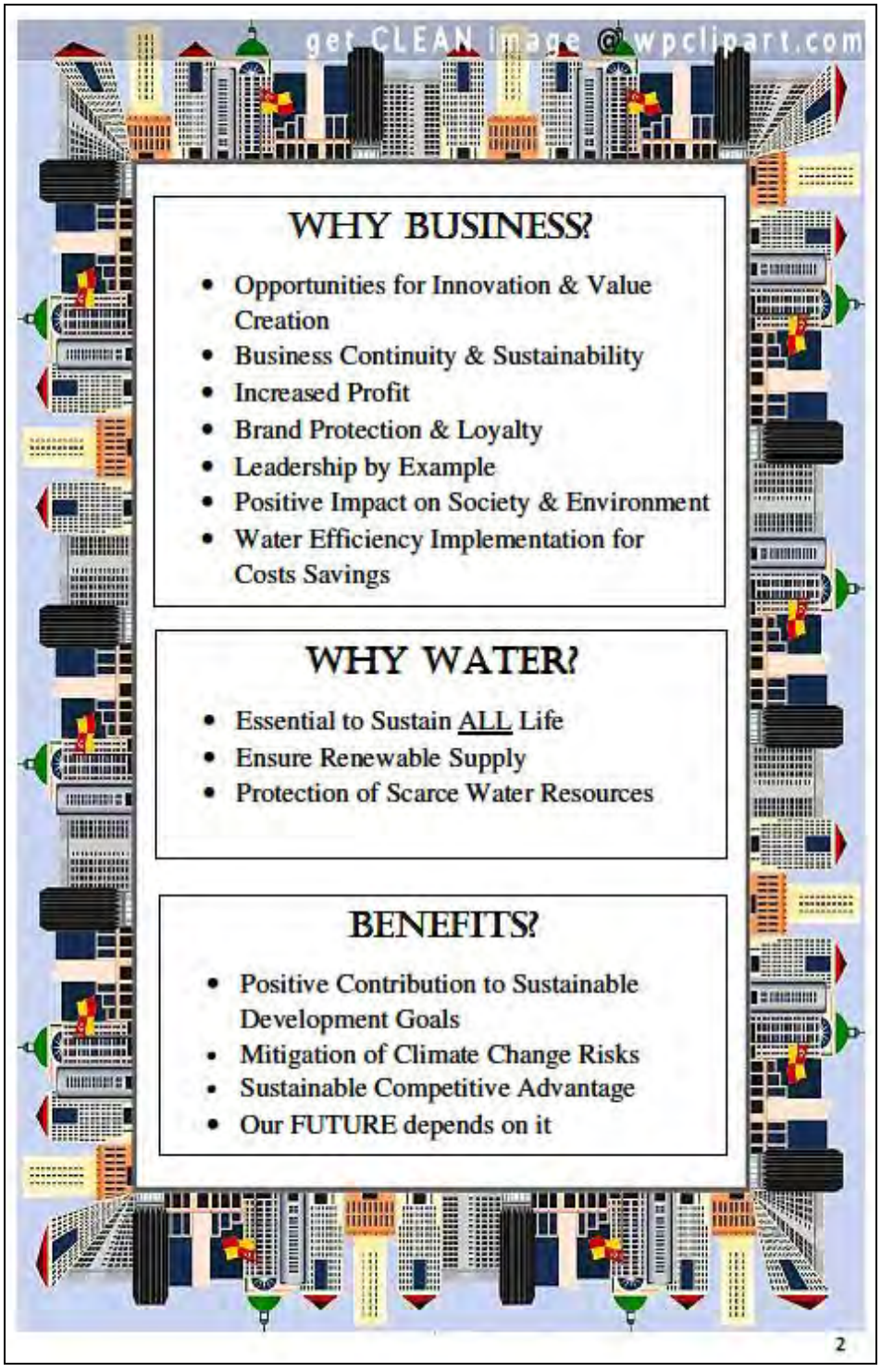
I do/ do not want a copy of the water stewardship framework only, once it has been completed and successfully reviewed by Rhodes University.

.....	.....	.....
Participants signature	**Witness**	**Date**

Rhodes University, Research Office, Ethics
Ethics Coordinator: ethics-commitee@ru.ac.za
t: +27 (0) 46 603 7727 f: +27 (0) 86 616 7707
Room 204, Main Admin Building, Drostdy Road, Grahamstown, 6139

APPENDIX D: VERSION 1 THE DRAFT WATER STEWARDSHIP FRAMEWORK FOR SMALL BUSINESS




get CLEAN image @ wpclipart.com
WHY BUSINESS?
• Opportunities for Innovation & Value Creation
• Business Continuity & Sustainability
• Increased Profit
• Brand Protection & Loyalty
• Leadership by Example
• Positive Impact on Society & Environment
• Water Efficiency Implementation for Costs Savings
WHY WATER?
• Essential to Sustain ALL Life
• Ensure Renewable Supply
• Protection of Scarce Water Resources
BENEFITS?
• Positive Contribution to Sustainable Development Goals
• Mitigation of Climate Change Risks
• Sustainable Competitive Advantage
• Our FUTURE depends on it
2

STEP 1

BUILD WATER AWARENESS AND UNDERSTANDING OF IMPACT ON BUSINESS OPERATIONS

1.1. Appreciate Global Water Challenges.

1.2. Assess and understand the businesses operational **direct** water use:

- Conduct a comprehensive assessment of the water use of the business.
- Where does the water come from? Municipal, borehole, rain, river, other?
- How water use impacts on the local community.

1.3. Identify risks, challenges, impacts and opportunities both positive and negative in respect of water use of the business site.

FURTHER EXPLANATION

1.1. Appreciate Global Water Challenges

A few of the common water challenges being experienced around the world include:

1. Water demand increasing due to population growth and industrialisation.
2. Water Scarcity due to shortage caused by drought, or infrastructure failure.
3. Water Stress caused by demand exceeding supply.
4. Water Pollution contaminating water sources and the water quality.
5. Insufficient Safe and Affordable Water for hygiene and sanitation.
6. Natural Freshwater ecosystems are being destroyed.
7. Climate Change impacts on water.
8. Human Right to access clean and safe water.
9. Increasing costs of consuming water.
10. Health risks imposed due to lack or water or poor quality.

Any one of these can challenges can result is many hardships for business, people and planet.

1.2. Assess and Understand the Businesses Operational **DIRECT** Water Use

1. **Conduct a comprehensive assessment of the water use of the business to determine how you can help fight water challenges locally.**

   How? This may be different for each business, but the core assessment is as follows: Walk around the business premises and list these. Examples include: toilets, showers, bath, kitchen sink, garden tap, irrigation system.

   If you are fully aware of what you are using water on, then it helps to implement control procedures to reduce use or re-direct water.

2. **Where does the businesses water come from?**

   Make a comprehensive list of the water sources, this could be municipal, borehole, rain, river, other sources. This helps in establishing whether there could be problems with scarcity or quality and also allows for calculating costs more efficiently.

3. **How water use impacts on the local community?**

   Investigate how your local area is being affected by lack of water and what you as a business can do to help. Look at society and stakeholders.

1.3. Identify risks, challenges, impacts and opportunities both positive and negative in respect of water use of the business site.

Risks:	Business Closure
Challenges:	Costs to implement, obtaining finance
Impacts:	Pollution, Illness
Opportunities:	Innovation, water saving technology, example for others to follow.

4

STEP 2:

DEVELOP A WATER STEWARDSHIP PLAN TO ADDRESS IMPACTS, RISKS AND CHALLGENGES IDENTIFIED

Set goals and targets for water conservation.

Identify waste water areas and reduction possibilities.

Identify Grey Water possibilities.

Develop an Organisational Culture awareness on water sustainability.

Document a Water Position Statement.

Document the Water Stewardship Plan.

Share water stewardship practices with stakeholders.

STEP 3:

TAKE ACTION TO IMPLEMENT WATER STEWARDSHIP

Identify and appoint a manager to oversee water stewardship.

Internal Action.

External Action with stakeholders (Collective Action).

Educate internally and externally on water sustainability and stewardship.

STEP 4:

EVALUATION AND CORRECTIVE ACTION

Frequent Evaluations: Feedback loop to step 2 to reset targets and goals to align with growth of the business

Take corrective action and continued improvement

STEP 5:

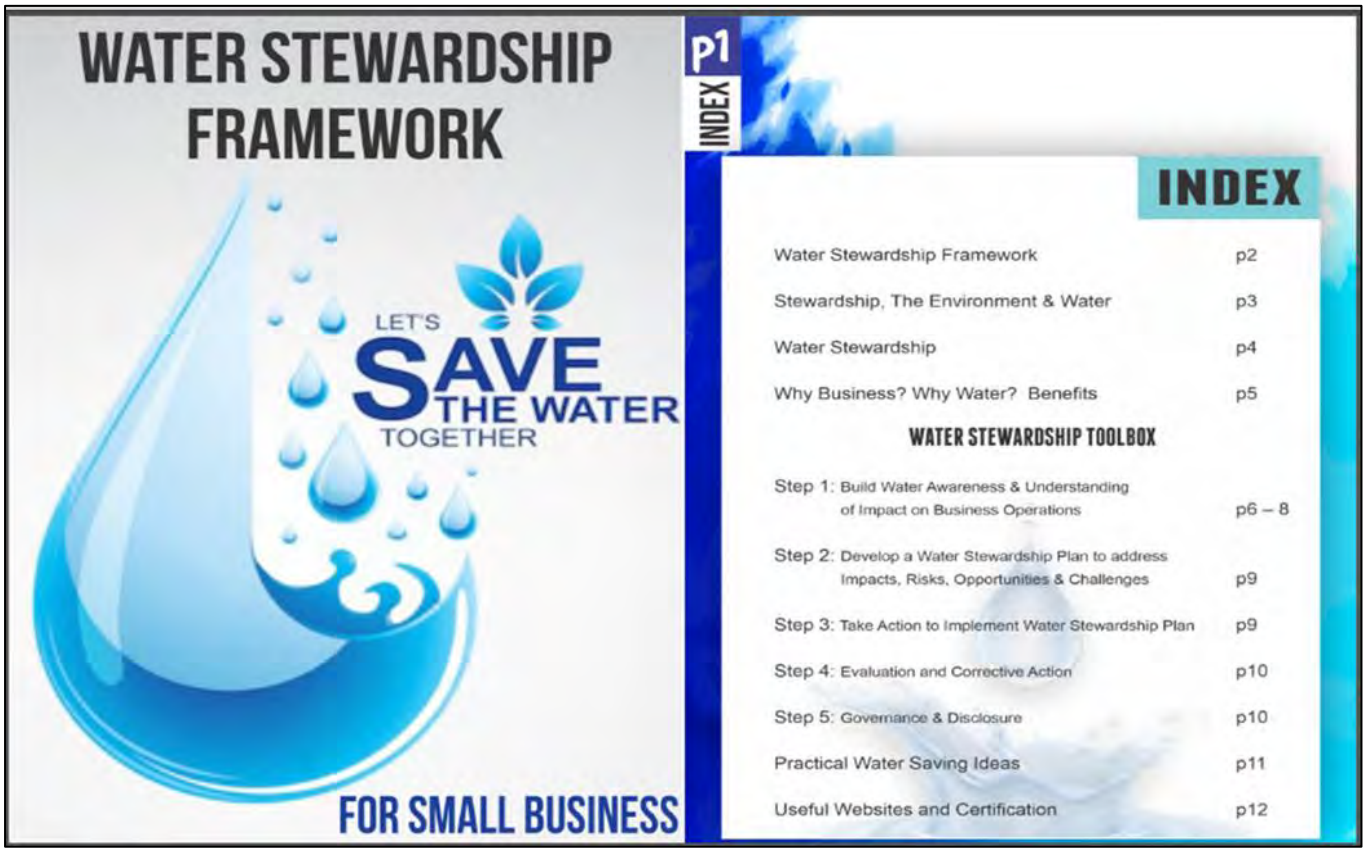
GOVERNANCE AND DISCLOSURE

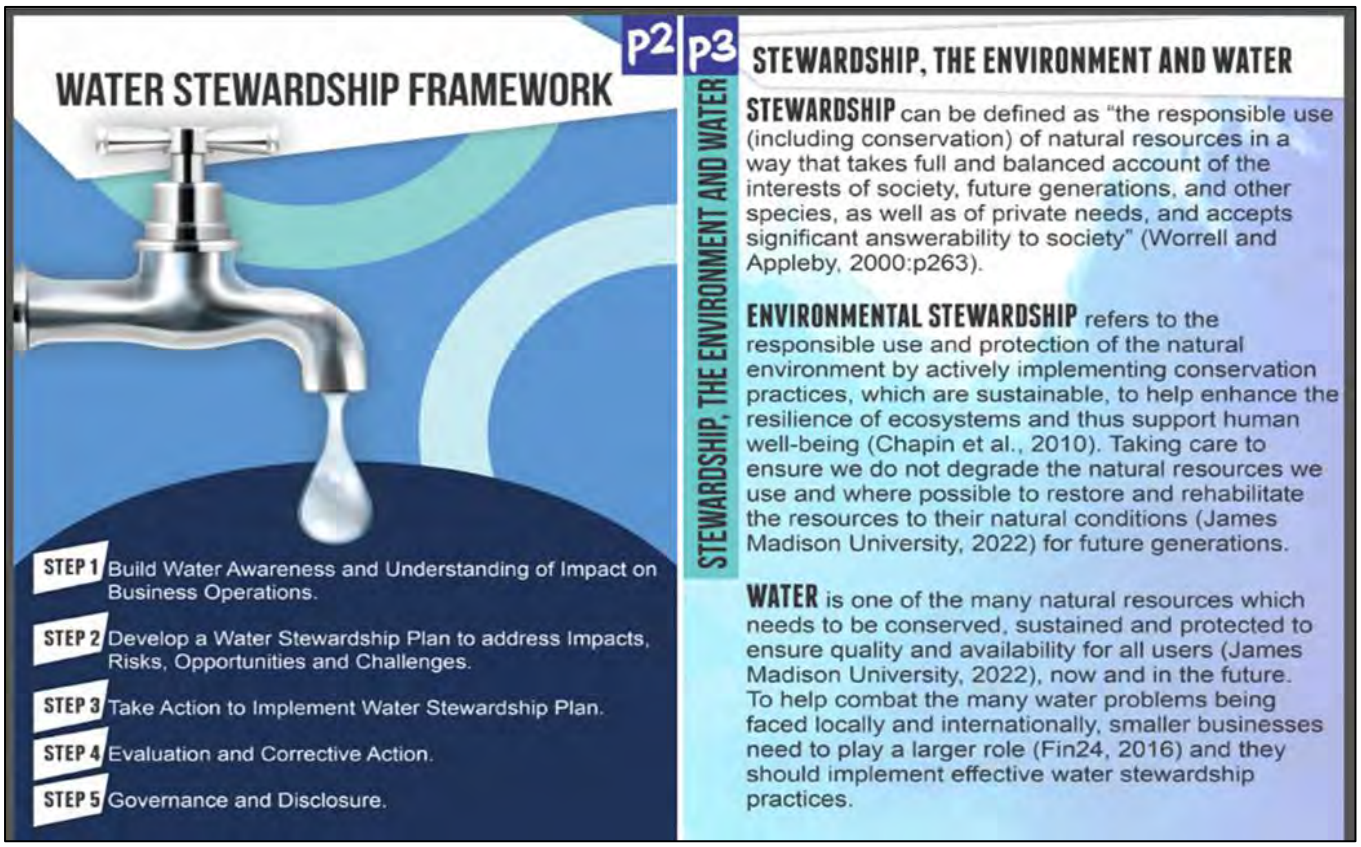
Transparency and Accountability

Ethical obligations on business to safeguard water

Communication

APPENDIX E: THE WATER STEWARDSHIP FRAMEWORK FOR SMALL BUSINESS (WSF4SB)





WATER STEWARDSHIP

Water Stewardship is defined by the Alliance for Water Stewardship as using water that is "socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that includes both site and catchment-based actions"

Water is one of the most essential ingredients for all business operations, and the lack thereof poses a serious material risk to future operations, which is being felt by all business organisations (Water Footprint Network, 2021).

It is also considered the 21st Century's most critical business issue (Roa, 2013) because water is essential for sustaining life and has no substitutes (Institute of Directors of South Africa, 2012).

These are some of the fundamental reasons why all businesses must prioritise water management; water is a resource they do not own but should urgently take ownership of by implementing water stewardship practices to minimise social and environmental risks, resulting in value creation for all water stakeholders (Roa, 2013).

> "socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that includes both site- and catchment-based actions" (Alliance for Water Stewardship, 2021: p 1)

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WATER STEWARDSHIP | WHY BUSINESS? | WHY WATER? | BENEFITS?

WHY BUSINESS?

- Opportunities for Innovation & Value Creation
- Business Continuity & Sustainability
- Increased Profit
- Brand Protection & Loyalty
- Leadership by Example
- Positive Impact on Society & Environment
- Water Efficiency Implementation for Costs Savings

- Essential to Sustain ALL Life
- Ensure Renewable Supply
- Protection of Scarce Water Resources

- Positive Contribution to Sustainable Development Goals
- Mitigation of Climate Change Risks
- Sustainable Competitive Advantage

Our FUTURE depends on it

WATER STEWARDSHIP TOOL BOX
TO ASSIST WITH IMPLEMENTATION OF FRAMEWORK

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STEP 1 | FURTHER EXPLANATION

STEP 1
BUILD WATER AWARENESS AND UNDERSTANDING OF IMPACT ON BUSINESS OPERATIONS

APPRECIATE GLOBAL WATER CHALLENGES

1.1. Assess and understand the businesses operational direct water use:
- Conduct a comprehensive assessment of the water use of the business.
- Where does the water come from?
- How water use impacts on the local community.

1.2. Identify risks, challenges, impacts and opportunities both positive and negative in respect of water use of the business site.

APPRECIATE GLOBAL WATER CHALLENGES

Common water challenges being experienced around the world include:

1. Water demand increasing due to population growth and industrialisation.
2. Water Scarcity due to shortage caused by drought, or infrastructure failure.
3. Water Stress caused by demand exceeding supply.
4. Water Pollution contaminating water sources and the water quality.
5. Insufficient Safe and Affordable Water for hygiene and sanitation.
6. Natural Freshwater ecosystems are being destroyed.
7. Climate Change impacts on water.
8. Human Right to access clean and safe water.
9. Increasing costs of consuming water.
10. Health risks imposed due to lack of water or poor quality.

Any one of these challenges can result in many hardships for business, people and the environment.

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FURTHER EXPLANATION

Assess and Understand the Businesses Operational DIRECT Water Use

1. Conduct a comprehensive assessment of the water use of the business to determine how you can help fight water challenges locally.

How? This may be different for each business, but the core assessment is as follows: Walk around the business premises and list these. Examples include: toilets, showers, bath, kitchen sink, garden tap, irrigation system.

If you are fully aware of what you are using water on, then it helps to implement control procedures to reduce use or re-direct water.

2. Where does the business's water come from?
Make a comprehensive list of the water sources, this could be municipal, borehole, rain, river, other sources. This helps in establishing whether there could be problems with scarcity or quality and also allows for calculating costs more efficiently.

3. How water use impacts on the local community?
Investigate how your local area is being affected by water problems and what you as a business can do to help. Look at society and stakeholders.

Identify risks, challenges, impacts and opportunities both positive and negative in respect of water use of the business site.

Risks:	Business Closure
Challenges:	Costs to implement, obtaining finance
Impacts:	Pollution, Illness
Opportunities:	Innovation, water saving technology

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STEP 2

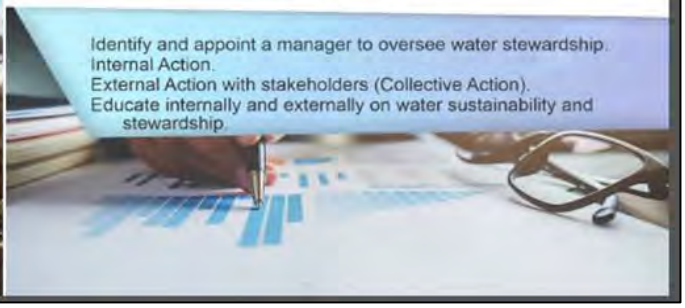
STEP 2
DEVELOP A WATER STEWARDSHIP PLAN TO ADDRESS IMPACTS, RISKS AND CHALLENGES IDENTIFIED

STEP 3

Set goals and targets for water conservation.
Identify waste water areas and reduction possibilities.
Identify Grey Water possibilities.
Develop an Organisational Culture awareness on water sustainability.
Document a Water Position Statement.
Document the Water Stewardship Plan.
Share water stewardship practices with stakeholders.

STEP 3
TAKE ACTION TO IMPLEMENT WATER STEWARDSHIP

Identify and appoint a manager to oversee water stewardship.
Internal Action.
External Action with stakeholders (Collective Action).
Educate internally and externally on water sustainability and stewardship.



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STEP 4

STEP 5

STEP 4
EVALUATION AND CORRECTIVE ACTION

Frequent Evaluations: Return to step 2 on page 9 to reset targets and goals to align with growth of the business.
Take corrective action and continued improvement.

STEP 5
GOVERNANCE AND DISCLOSURE

Transparency and Accountability.
Ethical obligations on business to safeguard water.
Communication.

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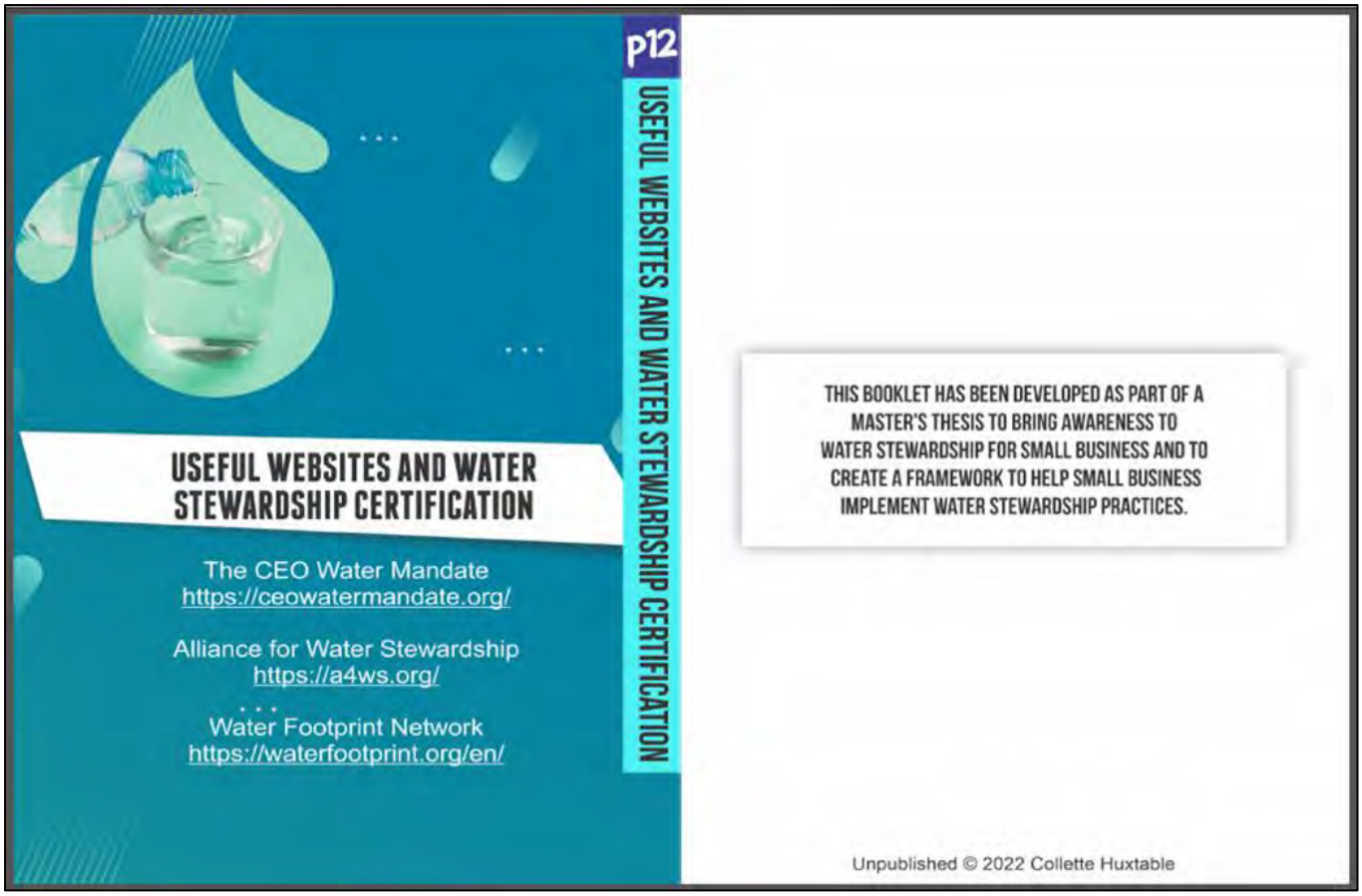
PRACTICAL WATER SAVING IDEAS FOR BUSINESSES

PRACTICAL WATER SAVING IDEAS FOR BUSINESSES

- Check for outside water leaks on a regular basis.
- Repair Water Leaks or Report to Municipality.
- Monitor your water account for excessive water usage.
- Take meter readings on a regular basis.
- Repair leaking taps and toilets.
- Make use of water displacement devices in the toilet.
- Make a conscious effort to reduce water waste.
- Train employees on water conservation and water waste.
- Install a rainwater tank.
- Make plans to use grey water where possible.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USEFUL WEBSITES AND WATER STEWARDSHIP CERTIFICATION
USEFUL WEBSITES AND WATER STEWARDSHIP CERTIFICATION
The CEO Water Mandate
https://ceowatermandate.org/
Alliance for Water Stewardship
https://a4ws.org/
Water Footprint Network
https://waterfootprint.org/en/
THIS BOOKLET HAS BEEN DEVELOPED AS PART OF A MASTER'S THESIS TO BRING AWARENESS TO WATER STEWARDSHIP FOR SMALL BUSINESS AND TO CREATE A FRAMEWORK TO HELP SMALL BUSINESS IMPLEMENT WATER STEWARDSHIP PRACTICES.
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