



WATER STEWARDSHIP FOR SUSTAINABLE WATER MANAGEMENT

Standard Operating Procedures for Industrial Parks



the dtic

Department:
Trade, Industry and Competition
REPUBLIC OF SOUTH AFRICA

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FOREWORD the dtic

South Africa is a water scarce country. As a result, it is important for the country's industrial parks to optimise water use and embrace resource efficiency methods. This is critical in order to reduce the pressure that operations have on water resources. This is also highly relevant to ensure business retention and supports efforts towards meeting SDGs and addressing climate change.

The development of Water Stewardship Standard Operating Procedures (SOPs) to support sustainable water management in industrial parks (IPs) directly responds to this need to alleviate pressure on water resources. The water stewardship SOPs are developed to provide practical guidance to enable IPs and park tenants assess their water use and take informed decisions to manage water more efficiently.

Specifically, the Water Stewardship SOPs assist users and stakeholders to better understand the role of water stewardship in driving water security and value creation in IPs. As a guideline, they offer a means for standardizing and systemizing the adoption of water stewardship in the operations of parks and park tenants by providing a four-phased roadmap for engaging in water stewardship. In addition, a number of illustrative tools and templates are included in the document for ease of use given the diverse contextual issues and operational nuances industrial parks prevail under.

IPs in South Africa are evolving in the manner in which they understand the interdependencies between their operations and the natural environment. More IPs are recognizing that the commercial viability and global competitiveness of the park are linked to their ability to manage risks (internal and external) and mainstream sustainability practices to their operations. Sustainability practices such as water stewardship present several outcomes for IPs. Water stewardship assists IPs to improve operational efficiency, reduce water related costs and address reputational risks linked to poor wastewater management. Similarly, the pursuit of water stewardship actions in IPs enables opportunities for collective action by promoting stakeholder engagement and communication. Moreover, it facilitates opportunities for IPs to leverage the clustering of business to introduce circularity and benefit from associated efficiency gains. This requires understanding that water stewardship makes business sense and environmental sense for IPs and park tenants.

As the dtic charts a new green growth path that decouples the growth and development of IPs from environmental degradation, embracing water stewardship practices will be integral to the process. Water stewardship in many respects is still viewed peripheral to operations of IPs and park tenants. The Water Stewardship SOPs enable and empower companies to integrate water resource management practices into their core competencies. This level of engagement ensures that IP and park tenants are able to utilise the Stewardship SOPs as a blueprint to guide their contribution to the green growth agenda.

IPs play an important role as growth nodes for Local Economic Development and social transformation. They support efforts aimed at addressing the country's most pressing issues namely unemployment, inequality and poverty. With water having the ability to constrain or advance the contribution of IPs on these matters, proactively responding through water stewardship ensures that IPs are in an improved position to tackle water related challenges and outline a water secure future for their operations. Water security through water stewardship engenders industrial security and leads to positive social and environmental outcomes, which is core to the catalytic nature of industrial parks from a transformational, developmental and sustainability perspective.



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FOREWORD GIZ NatuReS

The time to systematically address water related challenges is now. Globally, the health of freshwater ecosystems is at a record low, climate change impacts are manifesting in either too much or too little water and a myriad of challenges are undermining good water governance. In spite of this, debates continue on how to holistically respond to water related risks given the competing social and economic demands on water resources. Water stewardship as a transformative mechanism towards sustainable water management finds voice in these debates. This is because water stewardship promotes *“the use of water that is socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site- and catchment-based actions (AWS 2014).”* In view of this, water stewardship principles can be applied in diverse contexts ranging from multiple water user industrial settings to individual sites located in an urban industrial space.

South Africa has identified industrial parks (IPs) and special economic zones as strategic interventions to unlock its economic and social development potential. Water is a critical input resource in the operating environment of industrial parks. Yet, against the backdrop of a looming 17% water gap by 2030 and rising water scarcity due to high climate variability, the achievement of socio-economic objectives linked to the country's industrial parks strategy may be constrained. To this end, it is important to proactively respond to the growing water insecurity landscape and buffer economic sites against water related risks in a manner that manages risks, reduces operational costs and promotes economic returns in a sustainable way.

The Water Stewardship for Sustainable Water Management: Standard Operating Procedures for Industrial Parks (Water Stewardship SOPs) embody the above to guide how IPs can leverage the tangible value in responsible water management and emerge as sites of good water stewards. IPs that are good water stewards acknowledge that addressing shared water related risks requires tenants and IP managers to undertake actions internally, within IP boundaries and externally within the broader catchment. These actions can thus contribute to water security improvements at a tenant, IP site and catchment level.

The Water Stewardship SOPs draw from the criteria and indicators within the Alliance for Water Stewardship's 'International Water Stewardship Standard' (hereafter AWS Standard) and from the global Eco-Industrial Park Framework. Integrating these two instruments provides park managers and tenants with the confidence to internalise the SOPs with the knowledge that they have been informed by internationally recognised systems. In turn, the SOPs also act as a strategic lever for IPs and tenants to certify against the AWS Standard or comply with the EIP Framework. Certification against AWS is a vehicle for businesses to demonstrate good performance on water to potential customers, including the global brands and retailers who require independently verified assurance that potential suppliers are not causing water-related harms.

This Water Stewardship SOPs for sustainable water management is a collaborative effort between GIZ Natural Resources Stewardship Programme and the Department of Trade, Industry and Competition to integrate sustainability practices in industrial parks which support resilient economic growth. At a time when IPs are facing greater operational risks, we hope that every IP and stakeholder who reads the document are able to internalise key insights and adapt to respond to their unique water related challenges.

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NATURAL RESOURCES STEWARDSHIP PROGRAMME
Joint solutions for resilient economic growth

CONTENTS

- 1. INTRODUCTION 8
 - 1.1 Problem Statement 8
 - 1.2 Water security risks for IPs 9
 - 1.3. Managing water risks in IPs 10
 - 1.4. How to use this document 11
 - 1.5. Key actors for water stewardship in IPs 12
 - 1.6. Partners, programmes & products 13
- 2. EMBEDDING WATER STEWARDSHIP 18
 - 2.1 Benefits of water stewardship 18
 - 2.2 Where does stewardship fit in? 20
 - 2.3 The Alliance for Water Stewardship Standard 20
- 3. FRAMEWORK TO IMPLEMENT WATER STEWARDSHIP IN IPs 24
 - 3.1. Four-phased approach 24
 - 3.2. Understanding IP and park tenant roles 26
- PHASE 1: PREPARING FOR WATER STEWARDSHIP 27
 - STEP 1: Understanding the situation 27
 - Action 1a: Understand processes and associated water use 27
 - Action 1b: Document legal and regulatory compliance requirements 29
 - Action 1c: Identify catchment contextual water management issues 31
 - Action 1d: Undertake stakeholder mapping and analysis 33
- PHASE 2: STRUCTURING AND PLANNING FOR WATER STEWARDSHIP 35
 - STEP 2: Structuring 35
 - Action 2a: Obtain commitment for water stewardship 35
 - Action 2b: Coordinating for water stewardship 37
 - STEP 3: Planning for effective water stewardship 39
 - Action 3a: Develop a stakeholder engagement plan (*internal and external*) 39
 - Action 3b: Develop a plan for water stewardship (*strategic and operational*) 41
- PHASE 3: Realising water stewardship 43
 - STEP 4: Taking action 43
 - Action 4a: Implement water stewardship plan and actions 43
 - Action 4b: Monitor water stewardship plan and actions 46

PHASE 4: REVIEWING FOR CONTINUAL IMPROVEMENTS	47
STEP 5: Evaluate performance.....	47
Action 5a: Performance assessment	47
Action 5b: Learning for continual improvement	48
STEP 6: Communicating and disclosing.....	49
Action 6a: Communicate performance (internal and external)	49
4. OPERATIONALISING WATER STEWARDSHIP	51
4.1. Options for operationalising water stewardship in IPs.....	51
4.1.1 Option 1: Cluster approach to water stewardship in IPs.....	51
4.1.2 Option 2: Utilising existing platforms such as local industry Business Chamber	52
4.1.3 Option 3: IP and park tenants individually pursuing water stewardship.....	53
4.1.4. Option 4: Linking to broader catchment-based water stewardship initiatives.....	54
5. REFERENCES.....	56
6. ANNEXURES	59
6.1 Annexure A: Phase 1 Tools.....	59
6.2 Annexure B: Phase 2 Tools	87
6.3 Annexure C: Phase 3 Tools.....	94
6.4. Annexure D: Phase 4 Tools.....	96

LIST OF FIGURES

Figure 1: Impacts of water related challenges to IPs and park tenants	9
Figure 2: Water risks and interdependencies at various levels.....	11
Figure 3: Process diagram on how to use this document.....	12
Figure 4: Key actors for implementing water stewardship	13
Figure 5: Summary of Economic, Social and Environmental Benefits of water stewardship	18
Figure 6: SDG support provided by IPs and park tenants	19
Figure 7: Outcomes of stewardship in IPs.....	19
Figure 8: Water stewardship has important interfaces with key dimensions of the water business.....	20
Figure 9: Steps and outcomes of AWS Standard	21
Figure 10: AWS similarities with traditional EMS and step up to compliance	22
Figure 11: Water stewardship in support of sustainable economic development through IPs.....	22
Figure 12: Process for embedding water stewardship in IPs.....	23
Figure 13: Phase 1 Preparing for water stewardship.....	27
Figure 14: Phase 2 Structuring and planning for water stewardship.....	35
Figure 15: Phase 3 Realising water stewardship.....	43
Figure 16: Phase 4 Reviewing for continual improvement.....	47

LIST OF ACRONYMS

ACRONYM	DEFINITION
AWS	Alliance for Water Stewardship
CAPEX	Capital Expenditure
CBO	Community-Based Organisation
CDP	Carbon Disclosure Project
CEO	Chief Executive Officer
CMS	Catchment Management Strategy
COGTA	Department of Cooperative Government and Traditional Affairs
DFFE	Department of Forestry, Fisheries and the Environment
DHSWS	Department of Human Settlements, Water and Sanitation
the dtic	Department of Trade, Industry and Competition
DWS	Department of Water and Sanitation
EMP	Environmental Management Plan
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
GRI	Global Reporting Initiative
IP	Industrial Park
ISO	International Organisation for Standardization
IWASP	International Water Stewardship Programme
IWRA	Important Water-Related Areas
LED	Local Economic Development
LoCom	Letter of Commitment
MLM	Metsimaholo Local Municipality
MNF	Minimum Night Flow
MoU	Memorandum of Understanding
NEMA	National Environmental Management Act (Act No. 107 of 1998)
NBI	National Business Initiative
NGO	Non-Governmental Organisation
NWA	National Water Act (Act No. 36 of 1998)
NWSMP	National Water and Sanitation Master Plan
OPEX	Operating Expenditure
SDGs	Sustainable Development Goals
SECO	State Secretariat for Economic Affairs
SEZ	Special Economic Zone
SOP	Standard Operating Procedure
SWPN	Strategic Water Partners Network
TEDA	Tianjin Economic-Technological Development Area
UEIP	uMngeni Ecological Infrastructure Partnership
UIC	The Umbogintwini Industrial Complex
UWASP	uMhlatuze Water Stewardship Partnership
WASH	Water, Sanitation and Hygiene
WC/WDM	Water Conservation and Water Demand Management
WWWC	Wize Wayz Water Care
WWWCP	Wize Wayz Water Care Project

TERMINOLOGY

TERM	DEFINITION
Collective action	Water-related collective action refers to efforts specifically made to advance sustainable water management, whether through encouraging the reduction of water use, improved water governance, pollution reduction, river restoration, or other efforts.
Eco-Industrial Park	A community of businesses located on a common property in which businesses seek to achieve enhanced environmental, economic and social performance through collaboration in managing environmental and resource issues. By working together, the community of businesses seeks a collective benefit that is greater than the sum of individual benefits that each company would have realised by only optimising its individual performance.
Industrial Park	A community of manufacturing and service businesses located together on a common property. An industrial park within the South African context generally exists to support, manage, and administer industrial activities within a specified area to facilitate socio-economic benefits for the surrounding area, its tenants and the country as a whole. More specifically, an IP (also known as industrial estate) is an area which is zoned and planned for the purpose of industrial development.
Park tenant	Companies that are property owners or lessors of land in an IP. These are businesses that operate out of IP.
Stakeholder	Any organisation, group or individual that has some interest or 'stake' in the implementation of an organisation's activities, and that can affect or be affected by them.
Standard Operating Procedure	A set of written instructions that document a routine or repetitive activity carried out by an organisation. They address the who, what, where and when of an activity.
Water-related risks	There are three main water-related risks affecting sites, namely: • Direct physical risks related to the availability, reliability, and quality of water supply • Regulatory risks caused by changing allocation of abstraction and discharge licenses, which are often politically influenced • Associated reputational and market risk, linked to the perceived ecological and social impacts of water withdrawals and discharges
Water stewardship	<i>"The use of 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 (AWS 2014)."</i>
Water stress	Water stress occurs when the demand for water exceeds the available amount during a certain period, or when poor quality restricts its use. Water stress causes deterioration of freshwater resources in terms of quantity (aquifer over-exploitation, dry rivers, etc.) and quality (eutrophication, organic matter pollution, saline intrusion, etc.).

1. INTRODUCTION

1.1 Problem Statement

South Africa is confronted with an urgent need to grow the economy, address unemployment, and in so doing, reduce poverty and inequality. The National Development Plan - Vision 2030 provided a valuable blueprint for addressing these challenges and provided a suite of priority interventions towards unlocking the social economy. The advancement of nodes of development is seen as a key part of this process to strengthen inclusive growth, with the development of Industrial Parks (IPs) being an important approach in supporting this objective.

These IPs generally exist to support, manage, and administer industrial activities within a specified area to facilitate and enhance socio-economic benefits for the tenants, the surrounding region and the country. Lowe (1997) defined IPs as:

A community of manufacturing and service businesses located together on a common property. Member businesses seek enhanced environmental, economic, and social performance through collaboration in managing environmental and resource issues. By working together, the community of businesses seeks a collective benefit that is greater than the sum of individual benefits each company would realise by only optimising its individual performance.

Noting that businesses would be looking for enhanced performance, together with improved management of shared environmental and resource risks, IPs can become catalysts for technological, financial, and socio-economic transformation. IPs therefore offer reliable and innovative services to enable growth, provide shared infrastructure that reduces the various CAPEX and OPEX costs and provide a common institutional framework that supports the functioning of the park and drives common park-wide improvements and benefits.

A key benefit of IPs is the potential for more effective management of the impact of industry on the environment. Through the development of shared infrastructure and the use of localised environmental controls, these IPs can reduce the environmental footprint of their tenant industries. Noting the increasing level of consumer awareness regarding environmental issues, these IPs are often attractive in giving business some form of "green advantage". Collective action towards these environmentally sound approaches is becoming increasingly important.

South Africa is also promoting initiatives that support the country in its drive to attain Sustainable Development Goals (SDGs). These goals have a range of outcomes that IPs can support through proactively and holistically responding to environmental and social needs. This includes contributing to sustainable local economic development, promoting ecological health, supporting sustainable resource consumption, and driving innovation that supports resilience to climate change.

However, the country faces a looming 17% water deficit by 2030, which will significantly constrain South Africa's ability to effectively meet global obligations, including national socio-economic targets. Compounding this is the deteriorating water and sanitation infrastructure, as a result of insufficient maintenance and investment (DWS, 2018). Similarly, the health of South Africa's ecological infrastructure and water resources is severely compromised, further increasing water insecurity.

South Africa's water crises will curtail the economic development of the country and presents significant risk to future investment (DWS, 2018). Recent droughts around the country have underlined the impact that this can have on the economy.

The National Water and Sanitation Master Plan (NWSMP) indicates the need for all stakeholders to help address the country's water challenges to achieve national objectives. Furthermore, the NWSMP calls on businesses and all sectors, including the industrial and manufacturing sector, to optimise water use and reduce the negative footprint their operational processes have on water resources.

Water stewardship is increasingly being recognised as a key instrument to enable business to drive a more sustainable business future. Water stewardship drives towards “the use of water that is socially and culturally equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site and catchment-based actions (AWS, 2014).” Whilst the engagement of individual businesses in water stewardship undertakings is commendable, there is real opportunity for greater impact through collective action. The consolidation of businesses within IPs, and the collective alignment of these towards water stewardship, provides South Africa with an opportunity to embed these approaches as new norms for good business.

Despite the critical role that IPs and businesses have in addressing water challenges, there has previously been no guidance or framework about how an IP can leverage the clustered configuration, to adopt water stewardship practices which respond to water challenges affecting their catchment, which cumulatively, at a macro scale, affect the country. To this end, the Department of Trade Industry and Competition, as the custodians of IPs, is developing a Framework for Industrial Parks as part of the broader Revitalisation of Industrial Park Programme. The Framework will provide guidance to IPs on how to sustainably manage water resources utilising water stewardship, through Standard Operating Procedures for Implementing Water Stewardship.

1.2 Water security risks for IPs

IPs play an important role as growth nodes for Local Economic Development (LED) and social transformation. Typically, for any IP to be deemed viable and successful, it needs to attract and retain a considerable number of high-value, long-term investors in the site. To this end, it is crucial for IPs to secure sustainable water supply. However, as with many industrial zones, IPs face an increasing array of social, environmental and resource risks. In many instances, water scarcity and water quality top the list (UNIDO, 2017). Despite being cognisant of this, IPs typically do not account for and address the environmental and social externalities stemming from their activities, and are accordingly unable to fully mitigate the associated risks.

As a result, water challenges, such as deteriorating water quality, inadequate water supply, increasing demand, insufficient access to safe, affordable Water, Sanitation and Hygiene (WASH), and deteriorating freshwater ecosystems expose IPs and park tenants to three main risks, namely physical, regulatory and reputational (Kammeyer, 2017). Business-related impacts (Figure 1) can be significant, and include:

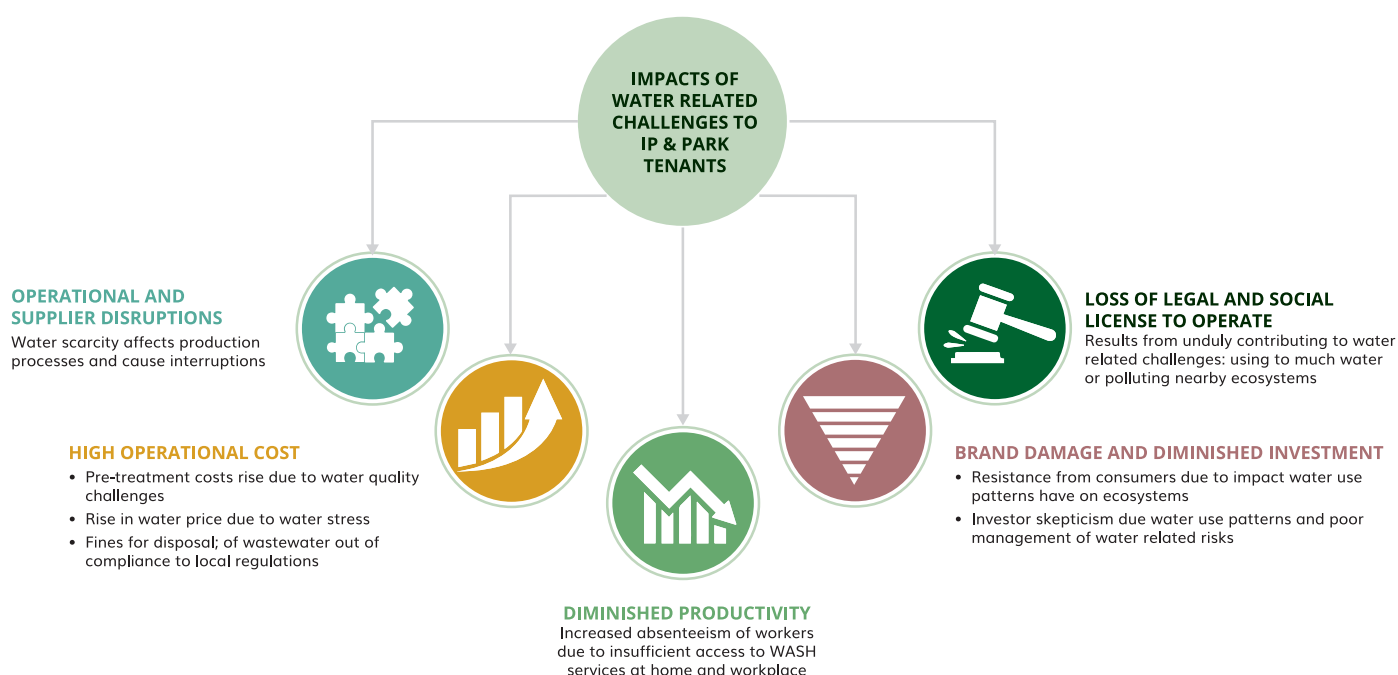


Figure 1: Impacts of water related challenges to IPs and park tenants, (CEO Water Mandate, n.d.)



Operational and supplier disruptions:

For businesses, water is either a key input in the production processes of the business or in the supply chain segments upstream, and in instances of water scarcity, these production processes can be interrupted and in the worst case, halted (CEO Water Mandate, 2017).



High operational cost:

Increased pre-treatment costs due to polluted river systems and the rise in the price of water at times of water stress can result in operational cost increases. IPs and park tenants can also face stringent surcharges if their disposal of wastewater is not compliant with local regulatory instruments.



Diminished productivity:

Water-related challenges, such as poor access to WASH services at the workplace and at home, can lead to workers becoming ill or having to stay at home to take care of ill children, resulting in increased absenteeism and potentially reduced levels of productivity (CEO Water Mandate, n.d.).



Brand damage and diminished investment:

Consumers and investors are increasingly aware of the need for greener business and managed environmental footprints. As a result, companies that fail to manage their water and environmental impacts can experience brand erosion, resistance from consumers and caution from potential investors.



Legal and social license to operate:

If businesses are perceived to have significantly or unduly caused environmental degradation, and increased water resource and water supply-related challenges and associated social challenges, their legal license (regulatory requirements) or social license (acceptance by employees, stakeholders and the public) to operate can be impacted upon (CEO Water Mandate, 2012).

1.3. Managing water risks in IPs

Recent policy and strategy developments within the water sector have recognised the complexity of managing the national water resource, and that the role of both the private sector and civil society is important in supporting effective water resource management. Instruments such as the National Water and Sanitation Master Plan, the National Water Resource Strategy (2nd Edition) and the Integrated Water Quality Management Policy and Strategy call for greater engagement in managing water resources and associated ecological infrastructure.

Water stewardship is therefore becoming increasingly important in dealing with water challenges and for mitigating water-related risks. Water stewardship, *“through a stakeholder-inclusive process, involves site- and catchment-based actions, to ensure that the use of water is socially equitable, environmentally sustainable and economically beneficial (AWS, 2014).”*

Water is a shared resource, and as a common-pool resource, often faces the potential “tragedy of the commons”, where the resource is effectively overutilised due to limited duty of care or institutional oversight (Hardin, 1968). Water risks are linked to the catchment’s condition and, thereby, affect all those that depend on the resource. Therefore, addressing shared water-related risks

GOOD TO KNOW

The CDP Global Water Report 2017 stated that over six hundred investors with combined assets of US\$69 trillion under management, urge businesses to both report their water-related risks and impacts, and to take action to mitigate risks (CEO Water Mandate, n.d.).

GOOD TO KNOW

Shared risk is the idea that companies have an incentive to invest in sustainable water management beyond their fence-line in a way that advances the public interest, because it manages business risk at the same time.

Source: (WWF, 2013)

demands that businesses and IP managers understand that their internal and facility-based water risks require actions internally, within the “factory fence” and IP, and externally, within the broader catchment. These stewardship actions can thus realise water security improvements at the following levels: company, IP and catchment.

Whilst water use efficiency-related interventions at the company level can have significant impact upon individual businesses, generally, stewardship measures undertaken at the IP level realise more far-reaching water security impacts. For example, a business may be on the forefront of water efficiency and wastewater treatment, but if its neighbour is consuming too much or polluting too freely, the health of shared freshwater ecosystems will continue to decline, and business will remain vulnerable to ongoing water-related risks (WWF, 2013).

Thus, collective action will have the most significant impact on the sustainability of local water resources and improve water security for the IP as well as the broader catchment. The complexity of working collectively and developing approaches that are jointly agreed, is often seen as prohibitive and requires dedicated facilitation. Equally, the competitive advantage of private business is important and needs to be understood when engaging in processes towards collective action.

In this regard, park managers play a critical role in facilitating these approaches, including:

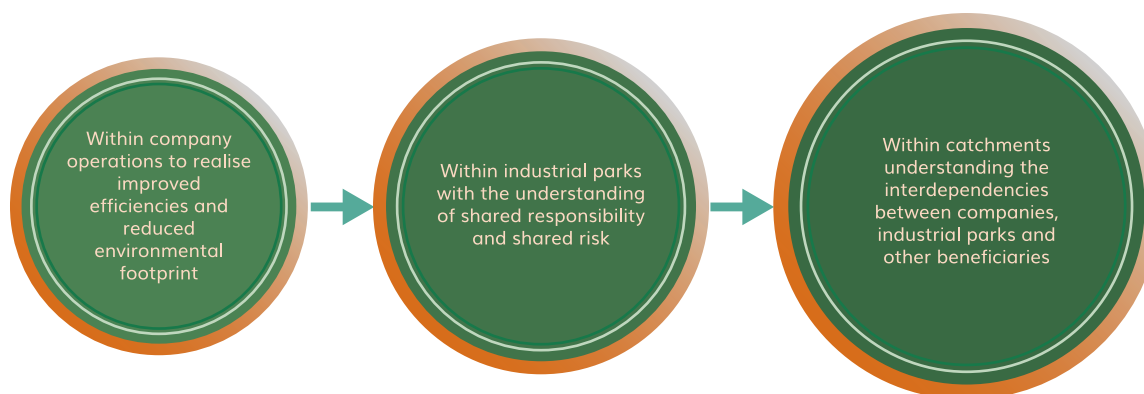


Figure 2: Water risks and interdependencies at various levels

- Building awareness regarding company level, park level and catchment-level performance and the importance of integrated and interactive approaches.
- Creating an understanding of the potential efficiency gains that can be realised through circular economy-based approaches.
- Developing an understanding of the possibilities for the pooling of resources in pursuit of collective action to ensure more significant impact.
- Engaging in catchment-level processes on behalf of the park, and providing feedback to park tenants on impacts and outcomes.

1.4. How to use this document

While there is good justification for the introduction of water stewardship approaches from a business and environmental perspective, this does not necessarily make this an easier process to initiate and undertake. The range of actions that can be undertaken vary from the more simplistic, through to far more complex and costly operational interventions. The purpose of this document is then to present an operational guideline for embedding Water Stewardship in IPs. Noting the range in intervention complexities, this document aims to provide pragmatic guidance for IPs and park tenants to incorporate water stewardship practices within and beyond their fence-line.

At an elementary level, users and stakeholders alike should use this document as an introductory and onboarding instrument, which provides clarity regarding the role of water stewardship in IPs and park tenants. The answers to this question are effectively encapsulated in Chapter 1 and Chapter 2 of the document.

At a secondary level, the document is an instrument for standardising and systemising the adoption of water stewardship in the operations of IPs and park tenants. As such, it provides a roadmap and a step-by-step manual for engaging in water stewardship. These approaches are captured in Chapter 3.

Lastly, users and stakeholders should use this document as a mechanism for facilitating the deployment of water stewardship actions in industrial sites. The document provides illustrative tools and case studies that are meant to assist in the implementation of water stewardship. These tools are broadly detailed, to ensure ease of use, and to allow flexibility in approach and accommodate the different contextual issues and the operational nuances of IPs. While the case studies are reflected throughout the document in respective sections, the tools are captured in further detail within the Annexures.

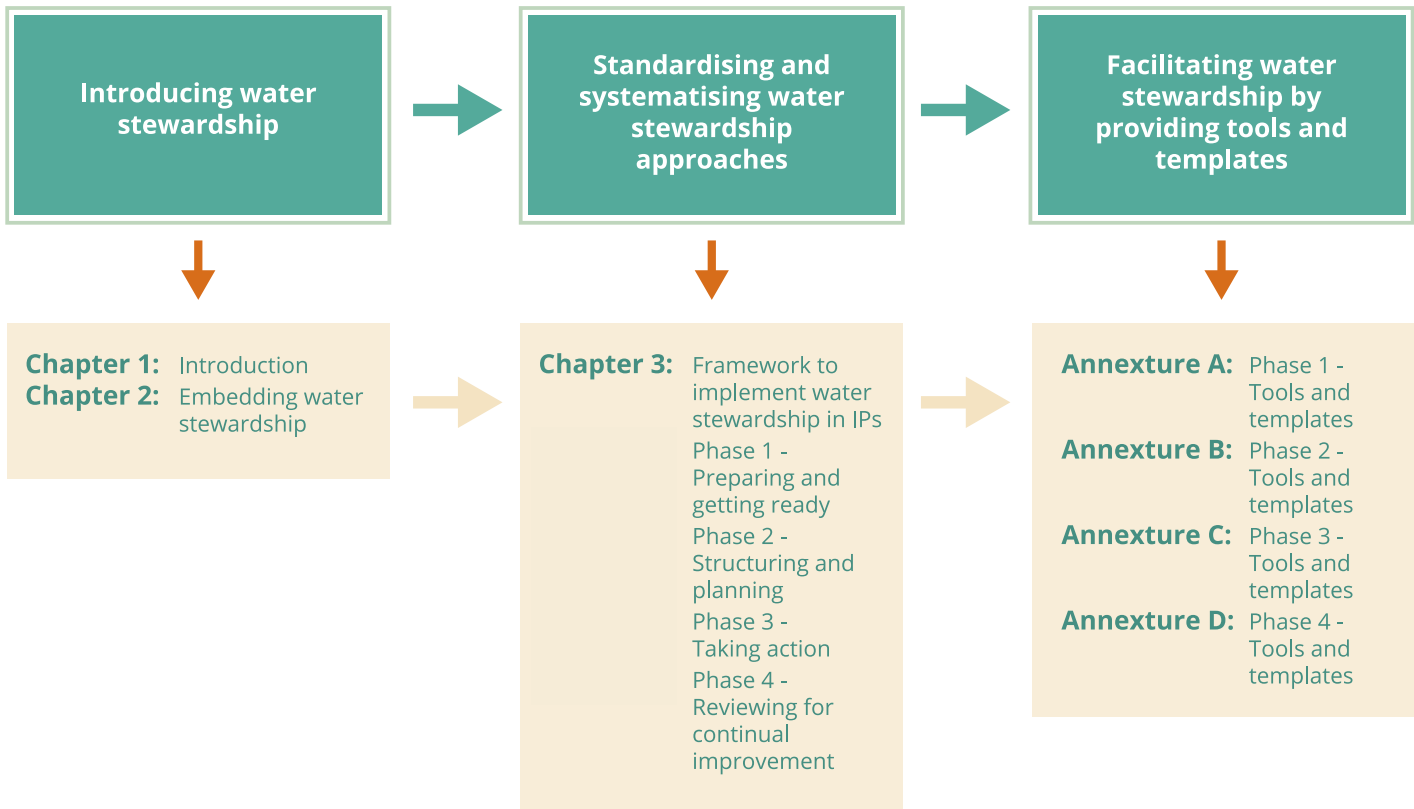


Figure 3: Process diagram on how to use this document

1.5. Key actors for water stewardship in IPs

There is a complex suite of relationships that support and guide the development of water stewardship processes. These key actors have different focal points and view stewardship through different “lenses”, due to their specific mandates. Nevertheless, it is important that these key actors share a common suite of objectives, so that the various risks are shared, ultimately resulting in mutually beneficial outcomes (Figure 4).

A brief analysis of these key actors provides insight into the various institutions and organisations that have not only core mandates and specific objectives, but that also have a suite of roles and responsibilities in supporting water stewardship. These can be considered according to the broad groupings of public sector, private sector, and civil society (Figure 4).



Figure 4: Key actors for implementing water stewardship

Institutional Roles and Responsibilities



Government

Government and public sector institutions have key mandates in terms of setting and overseeing the implementation of governance frameworks. There are differing sectoral mandates across social, economic, and environmental dimensions. Yet, there is consistent recognition of the need to ensure sustainable development, and to attain the Sustainable Development Goals. The development and effective implementation of policy, legislation and regulatory instruments are important for providing the functional and enabling landscape for water stewardship whilst monitoring and overseeing process and progress. Noting the more localised contexts within which IPs operate, it is important to understand the role of national, provincial and local government, as well as those public entities that operate across different spatial scales, such as Catchment Management Agencies that will operate within defined water management areas. These institutions include:

- **Department of Trade, Industry and Competition (the dtic)**, as the custodian of IPs, is mandated to ensure that the enabling environment for the operation, management and development of industrial zones supports economic returns, and promotes environmental sustainability and social development.
- **Department of Human Settlements, Water and Sanitation (DHSWS)** is the custodian of water resources and is responsible for ensuring water security to socio-economic activities through a range of strategic instruments, and regulating the use (abstraction and discharge) of water resources to ensure sustainable development. It oversees and guides more localised water resource management through the establishment of institutions such as Catchment Management Agencies and Water User Associations.
- **Department of Forestry, Fisheries and the Environment (DFFE)** maintains oversight over discharge of land-based waste, the protection of designated and special ecological and biodiversity areas, and ensures the sustainable management and development of ecological infrastructure, through instruments such as environmental impact assessments and the development of environment management plans.
- **Department of Cooperative Governance and Traditional Affairs (COGTA)** oversees municipalities wherein the IPs are located. COGTA has a duty to ensure that municipalities deliver municipal services of appropriate quality and standard. Thus, creating a conducive environment for the operation and development of IPs to support growth and development. COGTA is also mandated to support cooperative governance and plays a key role in facilitating collaboration across inter-sectoral Ministries/Departments.

- **Local government/Municipalities** have the responsibility to support and drive localised socio-economic development. Within the scope of municipal services is the provision of water and sanitation services infrastructure to IPs, and other key infrastructural services that are necessary for IP development (e.g., roads, communications, electricity). Municipalities also have an oversight and regulatory function that includes the monitoring of water use and discharge within the municipal system.
- **Provincial Government** have a range of sectoral departments that pertain to water stewardship and the development of IPs. Provincial government is particularly concerned about ensuring sustainable development and growth across provinces, and often in special economic development zones. Water security is high on provincial agendas, and efforts to develop provincial resilience are accordingly taking place across most provinces. Support is also provided to promote provincial branding, to develop the interest to invest in provincial economies, and as such, the development of stewardship within IPs is supportive of the drive to promote regional growth opportunities.
- **Public institutions** are important in supporting government to realise policy and strategic intent. This includes the establishment of Catchment Management Agencies that will be required to develop a Catchment Management Strategy. Such strategies will aim to drive integrated water resource management, and will be a key planning instrument, together with municipal integrated development plans. These agencies will be key actors in supporting sustainable development and will provide active support for water stewardship interventions. Additionally, they will establish more localised platforms for engagement that would support exchange on stewardship, including Catchment Management Forums.



Private sector

Whilst the private sector has the objective, through various business enterprises, to underpin growth and development at various spatial scales (some are local, while others are operating at regional and national levels), there is an increased understanding of the need to ensure sustainable growth within a resource-constrained environment. Recent droughts and ongoing concerns regarding energy security have served to drive this awareness, as has the need to manage costs through improved efficiencies in a competitive market. Brand recognition has become equally important, with companies linking this brand to greener and environmentally sound practice. IPs provide nodes for growth, but also hubs for improved efficiency and environmentally sound practice in support of this brand. Water stewardship can be understood as a focal point for these various approaches.

Key actors in this would then include:

- **Chambers of Commerce** are responsible for the promotion of local business and represent the interests of business. As such, these Chambers have an important role in developing business networks, the exchange of information, and capacity building, and as such, this can support IPs and the development of water stewardship approaches.
- **Industry Associations** are most often supportive of brand development and associated promotional activities to support the development of the industry. However, these associations could do more in terms of establishing operational benchmarks and promoting improved business approaches within the industry. This could include knowledge exchange and the development of training or capacity building interventions.
- **Executive or senior managers of IPs** are responsible for a range of strategic and operational aspects to ensure that the objectives of the park are attained. Driving environmentally sound operations and regulatory compliance are key and would support the approach to water stewardship. This would mean supporting knowledge exchange and promoting practices. Noting that stewardship approaches mean engaging with catchment-level issues, the IP management team would be representing the IP in these processes.
- **Companies** are increasingly aware of their corporate risk to decreased water security, and as such, need to translate this into actions inside their operations, whilst engaging with catchment-level issues. In the IP setting, the park management would typically engage with catchment-level issues, but that does not stop individual or collective companies from taking supportive action. Beyond their own regulatory requirements, company management would need to plan, set aside financial resources, and provide staff with time to engage with water stewardship interventions, look to improved practice and build staff capacity to support good practice. Willingness to engage with other businesses towards improved water stewardship practices and partnership is important. Equally, the support of business in terms of research and development and

innovation is valuable in developing new approaches and practice. However, the competitive nature of business is recognised and needs to be considered.



Civil society

The role of civil society is complementary to that of the public and private sectors, and must be understood as a key facilitator for partnerships towards shared beneficiation from local and catchment-level resources. This will include acting as a 'watchdog' for environmental justice, through to acting as an interlocutor between public and private sector actors to find innovative and integrative solutions to water sector challenges. As such, civil society plays a key role in promoting transparency and accountability.

- **Non-governmental organisations and community-based organisations** function at a variety of levels as a result can play differing roles. The larger international NGOs can provide both international experience and access to an array of knowledge products and can support specific interventions. They can leverage wider engagement on specific issues, and this can be extremely powerful in supporting water stewardship. More local NGOs and CBOs are not always well resourced but often are embedded in local communities and play a key role in fostering that level of engagement. Noting that these organisations have varying objectives, working with them to support water stewardship approaches, particularly at the local and catchment level, will be critical.
- **Community leaders** as trustees and managers of the local community have a direct interest in ensuring that natural resources are sustainably managed to support the productivity of community members. They also have significant interest in industrial sites as centres for unlocking employment opportunities for local community members and local economic development.

1.6. Partners, programmes & products

With the increasing global recognition of socio-economic risks to water security and the impact of climate uncertainties, there has been significant effort placed on the development of support interventions to strengthen the approach towards effectively managing these risks. Certain international development partners have played a key role in supporting water stewardship through regional and country-based programmes, and through the development of various knowledge products. In addition, there are a number of collaborative partnerships that have promoted stewardship approaches and provided rich experience in the development of knowledge products. These partnerships can be leveraged to provide direct support to specific interventions and processes to support the implementation of stewardship approaches, be that at a country level or focused on specific sectors.

Engaging with these partners and the various programmes and knowledge products can provide meaningful guidance and support. A brief snapshot of some of these is provided below, with a few website links to support access to information. This is by no means exhaustive.

- **International development partners** have provided meaningful support towards improved sustainable development approaches. Programmes such as the GIZ NatuRes (previously IWASP) programme have provided support to not only develop innovative approaches to stewardship that bridge the public and private sectors, but also support the development of capacity and the exchange of knowledge and experience through process support. The Swiss State Secretariat for Economic Affairs (SECO) is also currently providing significant support towards improving water use efficiency in the agri-processing sector of South Africa, much of which leans towards improving water stewardship in this important sector. There is a range of international development partners that provide support to the water sector in South Africa in various ways, and that may provide support to initiatives. Drawing upon the wealth of international experience that these development partners can access is invaluable.



<http://www.iwasp.org/>

<http://iwasp.org/file/541/download?token=E7yfrJUb>

- * **Alliance for Water Stewardship** is a collaboration of public sector, businesses and civil society members who promote and adopt stewardship according to an International Water Stewardship Standard. This AWS Standard has been developed through a multi-year global consultation process to develop steps and guidance for achieving good water stewardship practices within sites and broader catchments. The AWS Standard is fully compliant with the guidelines set out by ISEAL, the global alliance for credible standard systems.



<https://a4ws.org/>

- **Collaborative partnerships** take many forms and provide support in differing ways, but much of this is to promote sustainable development approaches, promote water stewardship and support capacitation and knowledge exchange. Some of these include:
 - * **CEO Water Mandate** mobilises business leaders to address global water challenges through corporate water stewardship, in partnership with the United Nations, governments, civil society organisations, and other stakeholders. The CEO Water Mandate provides a platform for business leaders and learners to commit to action across six key elements that underpin stewardship, and report annually on progress, thus promoting water stewardship and advancing understanding through knowledge exchange. Importantly, in implementing water stewardship these companies are identifying and reducing corporate water risks, look to innovation for water-related challenges, and contribute to water security and the Sustainable Development Goals.



<https://ceowatermandate.org/>

<https://wateractionhub.org/>

- * **National Business Initiative (NBI)** is a coalition of South African and multi-national companies that are collectively working towards more sustainable development outcomes. The NBI's linkages to global network partners and its national level support for approaches to ensure water security, including that of water stewardship, are important for promoting innovation, building capacity, and fostering knowledge exchange. The NBI provides a valuable repository of experience and information.



<https://www.nbi.org.za/>

- * **Strategic Water Partners Network (SWPN)** is a voluntary engagement platform where public, private and civil society partners can jointly contribute to the development of innovative solutions to the water challenges being faced by South Africa. The SWPN has a number of working groups, one of which is focused on water stewardship.



http://www.2030wrg.org/wp-content/uploads/2014/08/South-Africa_Strategic-Water-Partners-Network-Brochure.pdf

<https://wateractionhub.org/organizations/892/d/strategic-water-partners-network-swpn/>

- **Programmes and projects** have been undertaken internationally and locally to support water stewardship. Much can be learned from the experiences of those that have engaged in these interventions. Over and above the more formalised partnerships (provided above), there is a growing network of actors who are willing to share their experiences with the understanding that collective action is required to address the water-related challenges of South Africa. Many of these programmes and projects are being supported by the partners mentioned above, but one can also obtain useful insights through the information available on programmatic websites.
 - * **uMhlathuze Water Stewardship Partnership (UWASP)** was established in response to the drought

of 2015/16 and the need to collectively address water security in the uMhlatuze catchment. The partnership has a range of public sector, private sector and civil society partners, and has several focus areas for change to support sustainable socio-economic development.



<https://www.nbi.org.za/focus-areas/environmental-sustainability/water/umhlathuze-water-stewardship-partnership/>

- * **uMngeni Ecological Infrastructure Partnership (UEIP)** is a partnership that was established in 2013, through a Memorandum of Understanding (MoU) by key organisations committed to finding ways of integrating ecological infrastructure solutions to support built infrastructure investments in addressing challenges of water security in the uMngeni catchment.



<http://biodiversityadvisor.sanbi.org/participation/umngeni-ecological-infrastructure-partnership/>

- * **Sasol, GIZ, Emfuleni Boloka Metsi water conservation project** saw the engagement of business, local and national government and the support of international development partners to jointly develop approaches to address shared water risks. The project was initiated in 2012, and realised significant impact in managing these risks, and is often presented as a case study of the success that can be achieved through these collective action approaches.



<http://www.nbi.org.za/wp-content/uploads/2016/06/Emfuleni-Lessons-Learnt-SWPN-Conference-Sasol.pdf>

- **Knowledge Products** have been extensively produced to provide guidance towards water stewardship, and much of this is available through the links provided above. It is not possible to exhaustively reflect the wealth of this knowledge within this document, but a few are listed here as being indicative of the information that is available.



<https://a4ws.org/the-aws-standard-2-0/>

<https://ceowatermandate.org/toolbox/>

<https://ceowatermandate.org/resources/guide-water-related-collective-action/>

<https://ceowatermandate.org/resources/shared-water-challenges-private-sector/>

<https://ceowatermandate.org/resources/setting-site-water-targets-informed-by-catchment-context-a-guide-for-companies-2019/>

<https://ceowatermandate.org/resources/corporate-water-resilience-in-an-uncertain-future-2020/>

https://d2ouvy59p0dg6k.cloudfront.net/downloads/wwf_waterstewardship_brief_web_final_1.pdf

<https://pacinst.org/publication/guide-for-bringing-integrity-to-companies-water-stewardship-initiatives/>

<https://pacinst.org/publication/corporate-water-disclosure-guidelines/>

https://wwf.panda.org/knowledge_hub/all_publications/?270440/Water-in-the-economy-a-narrative-for-stewardship

https://wwf.panda.org/knowledge_hub/all_publications/?210092/Water-Stewardship--Perspectives-on-business-risk-and-responses--to-water-challenges

2. EMBEDDING WATER STEWARDSHIP

2.1 Benefits of water stewardship

The adoption of water stewardship can help IPs and park tenants to identify and manage the many water risks threatening their current operations, as well as the opportunities to expand business. By collectively undertaking water stewardship actions, businesses and park managers can leverage on the suite of economic, social and environmental benefits of stewardship (Figure 5).

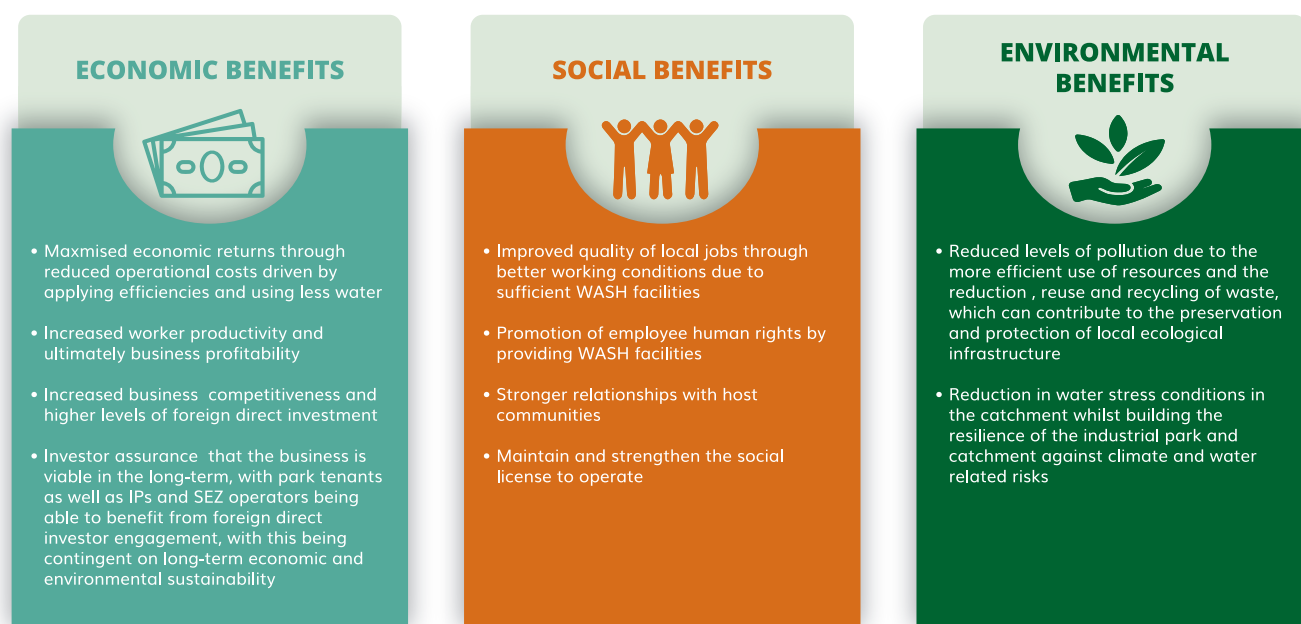


Figure 5: Summary of Economic, Social and Environmental Benefits of water stewardship

The **economic benefits** for industrial parks and park tenants involved in water stewardship actions and other corporate sustainability practices include maximised economic return through reduced operational cost driven by applying efficiencies and using less water (UNIDO, 2017). Secondly, sustainability practices, including those related to water stewardship, motivate a significant boost in worker productivity and ultimately business profitability (CEO Water Mandate, n.d.).

Additionally, water stewardship actions increase IP competitiveness and can contribute to higher levels of foreign direct investment (UNIDO, 2017). This is because, when park tenants operate in well-designed and well-managed parks that engage in sustainable practices, they are more likely to have a better brand value and potentially gain competitive advantage. Similarly, IPs and park tenants can benefit from foreign direct investment which is contingent on long-term economic and environmental sustainability of the park.

IPs exist within a local social economy and rely on local communities for the provision of labour. As such, the **social benefits** derived from IPs and park tenants engaging in stewardship are important not only for the workforce, but also in terms of the social license to operate. Hence, actions to ensure consistently safe and sufficient access to clean drinking water, adequate sanitation, and hygiene facilities in the workplace, whilst supporting interventions within surrounding communities, promote employee and community well-being.

The environmental benefits of stewardships' actions are diverse and quite contextual.

There are various regulatory requirements placed upon IPs and the businesses that operate within these parks. These requirements need to be met as part of normal operational business. However, water

stewardship and other environmental sustainability-focused interventions can further result in significant catchment-level improvements, through reduced water usage and reduced levels of pollution. This can result in significant improvements in the management, preservation, and protection of local ecological infrastructure. Ultimately, this can result in improved resilience to the impact of climate and water-related risks.

Therefore, companies that have truly adopted water stewardship have moved beyond the understanding of the need to only manage internally-focused interventions, but have realised that water is a shared resource that requires collective stewardship, taking cognisance of upstream and downstream impacts and dependencies (WWF, 2018).

In many instances, to mitigate catchment and basin-level risks, and to protect shareholder equity, there is a need for business to engage with macro-issues of policy, strategy and planning. With this understanding, these issues become core elements of business, as opposed to simply being elements of corporate social responsibility.

This engagement enables companies to make invaluable contributions to solving national water crises, and provide support in achieving the Sustainable Development Goals (SDGs) (Figure 6). Of course, larger businesses that function at national and international levels have the ability and resources to significantly influence policy, shape the global discourse on water, raise the company profile and reputation regarding responses to water risks.



Figure 6: SDG support provided by IPs and park tenants

Importantly, there are several outcomes that emerge from IP engagement with water stewardship initiatives (Figure 7). This requires the mobilisation of collective effort and the coordination of action. It will also require the mobilisation of finance to support actions. However, this will realise internal efficiency and support the management of shared water risk. In South Africa, where there has been a history of mistrust, this also creates a different discourse between regulatory institutions and the private sector, enabling improved resource governance that supports sustainable growth.

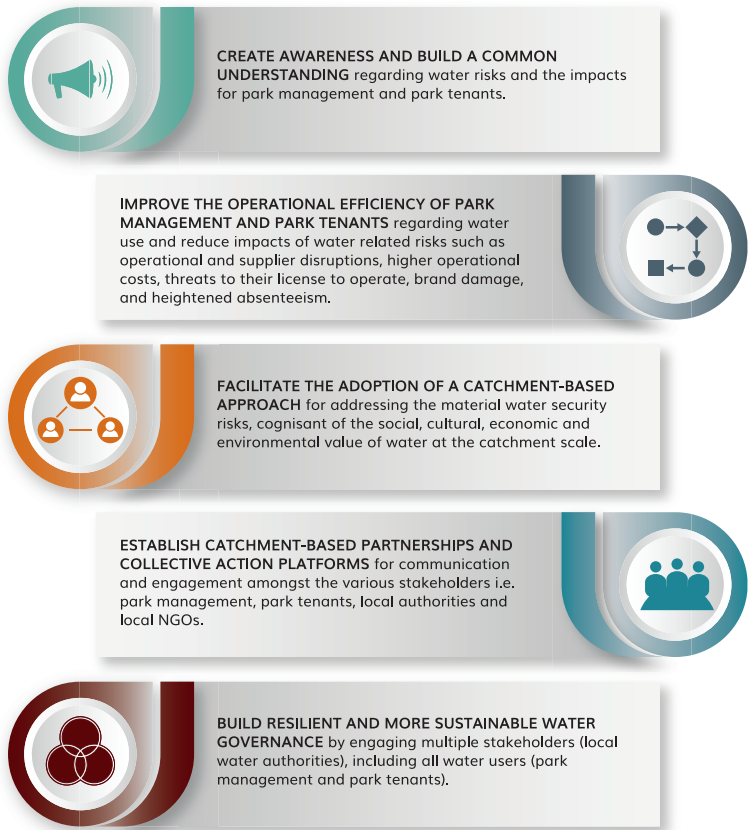


Figure 7: Outcomes of stewardship in IPs

2.2 Where does stewardship fit in?

The water business is complex and has a range of differing dimensions, which are managed through several public sector institutions. In managing shared water risks and in taking up water stewardship, IPs will find themselves interfacing with these different dimensions of the water business in both strategic and operational ways (Figure 8).

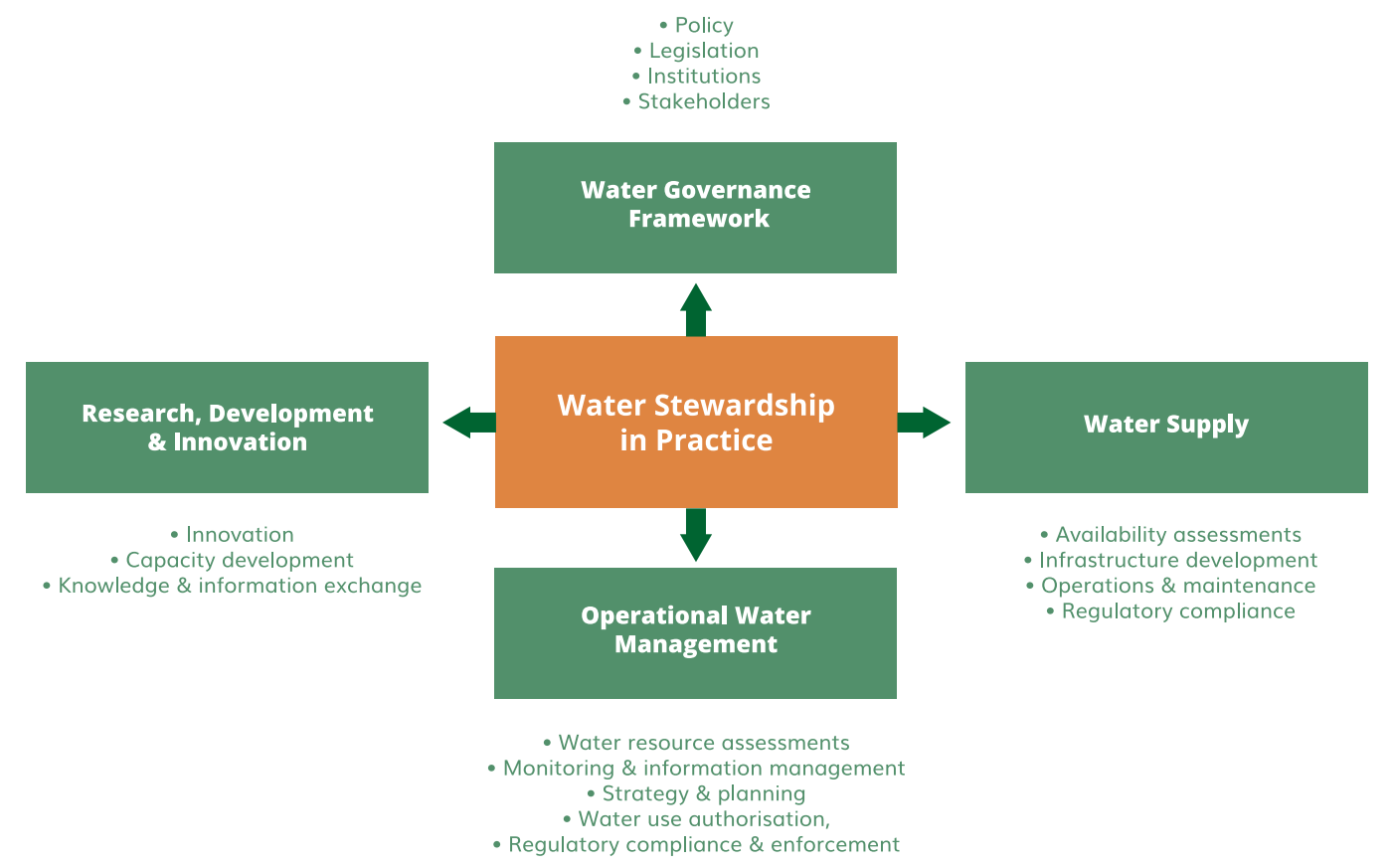


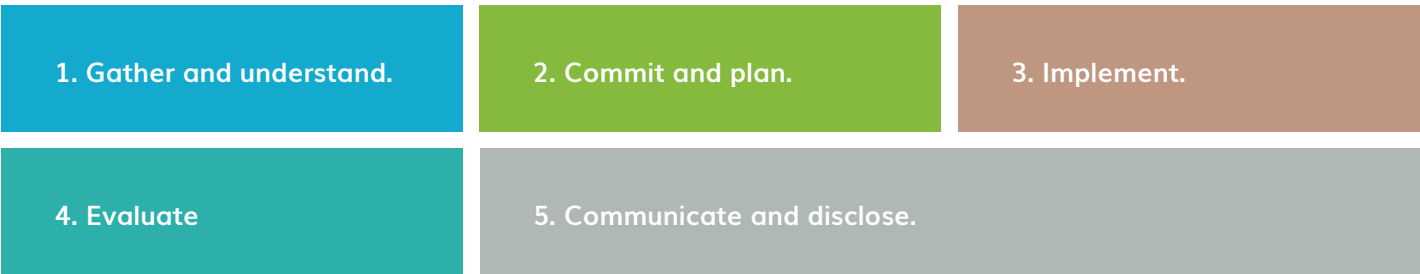
Figure 8: Water stewardship interfaces with the key dimensions of the water business

In many instances, the IP may represent the park tenants in strategic issues, whilst the park tenants themselves will take responsibility for their own operational dimensions. But there may be contextual nuances and larger businesses can often be seen to play a more active role to the more strategic issues, to help catalyse collective action. When one understands the specific stewardship journey for the IP, the way in which each of these interfaces is managed, becomes progressively clearer.

2.3 The Alliance for Water Stewardship Standard

Launched in 2014, the Alliance for Water Stewardship’s (AWS) International Water Stewardship Standard is a globally applicable framework that offers a clear conceptualisation of what water stewardship involves. In addition, the Standard provides an independently verifiable route for businesses looking to ensure that their actions drive sustainable water management within a catchment context.

The AWS Standard is built around five steps which guide sites as they create a roadmap to advance their water stewardship journey (Figure 9). The steps are:



GOOD TO KNOW

Water is a challenging issue for global brands. Certifying against the AWS Standard offers companies hoping to supply brands the best way to demonstrate not being part of the problem.

The implementation of the AWS Standard is intended to achieve five main outputs, namely: good water governance; sustainable water balance; good water quality; protection of Important Water-Related Areas (IWRAs); adequate access to Water, Sanitation and Hygiene (WASH).

The AWS Standard equips water users with the opportunity to understand their water use and impacts, and to work collaboratively and transparently with others to develop practical actions that holistically address site and catchment water-related issues. In this respect, the AWS Standard widens the scope for how businesses can respond to water risks facing their operations and host catchment, since it encourages businesses to move beyond their factory fence.

The intent of the AWS Standard to drive sustainable water management has synergies with and provides a platform for the dtic's commitment to decouple the growth and development of IPs from environmental degradation, and to chart a new green growth path. Therefore, the dtic has based the Standard Operating Procedures (SOPs) for embedding water stewardship in IPs on the AWS Standard to create awareness, improve operations, facilitate a catchment approach, establish partnerships and strengthen overall governance.



Figure 9: Steps and outcomes of AWS Standard

How the AWS Standard paves the way for "compliance +" and differs from other standards

The Standard differs from other internationally recognised environmental management standards as it takes on an integrated management approach that recognises the important relationships between water and biodiversity, land and people (AWS, 2014). In so doing, the Standard provides an avenue for sites to engage in matters beyond their factory fence towards managing shared water risk.

Notably, the AWS Standard is not a standalone performance standard; rather, it is meant to complement and maximise existing environmental management systems and standards. This is because the implementation of the AWS Standard partly depends on data and information that is gathered to comply with classic environmental management standards and systems such as ISO 14001 or ISO 14046.

The existing environmental standards are a perfect starting point for businesses to ensure their legal compliance and to reduce their environmental impact. However, they are mostly limited to business-level actions and do not offer guidance on how businesses can improve their water security by engaging in more strategic activities regarding governance and catchment-based interventions. It is in this space that the AWS Standard operates, aiming to move IPs and the park tenants from the classic near-environmental management way of addressing impacts and water risks.

There are various similarities and differences between the AWS Standard and traditional environmental management systems, as well as important complementarities that traverse the core steps of the AWS

Standard (Figure 10). Understanding how to use these instruments in concert will enhance the approach to water stewardship, and support regulatory and compliance-related issues.

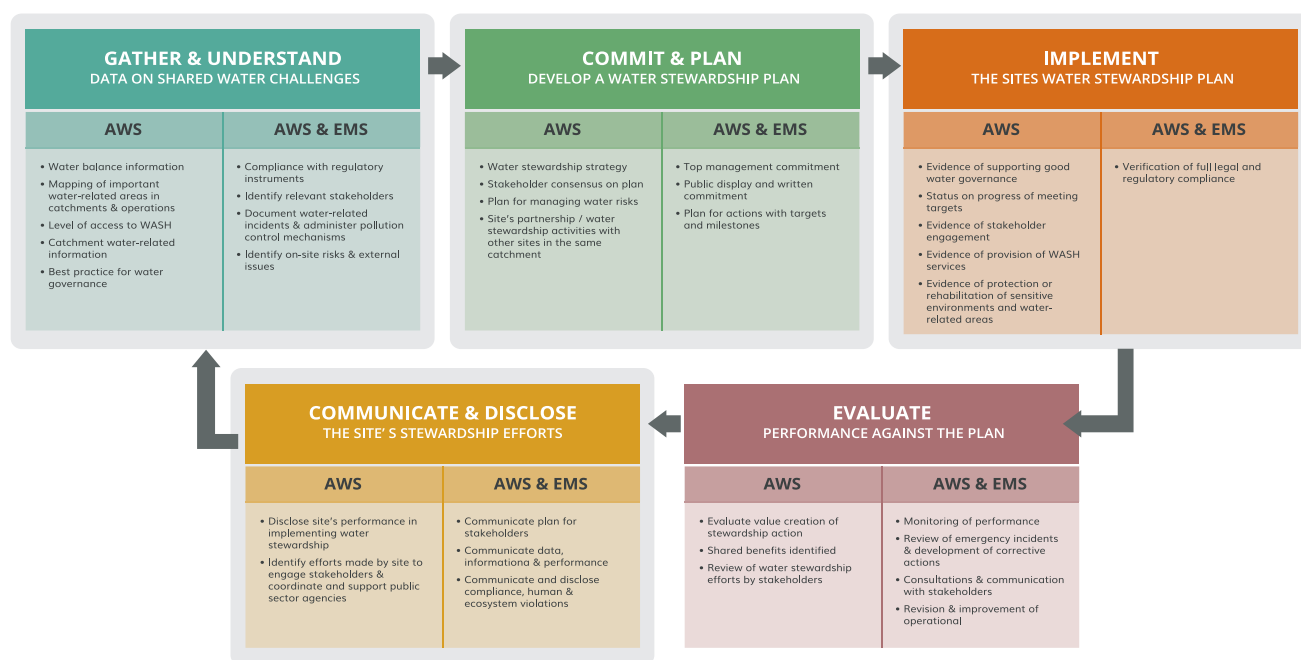


Figure 10: AWS similarities with traditional EMS and step up to compliance

Linking water stewardship to the framework for Industrial Parks in South Africa

the dtic is cognisant that the designation and subsequent establishment of IPs can trigger and exacerbate pressure on natural resources. The development of these areas needs to be undertaken in a manner that supports environmental health and integrity, and this is important in terms of the vision of the National Development Plan. Therefore, the dtic, in developing the Framework for Industrial Parks in South Africa, has placed much emphasis on the need to balance environmental protection and industrial growth. The overarching objective of the Framework is to provide a standard policy framework for the improved operation, performance, and sustainability of IPs. As such, water stewardship is understood to be a key aspect of IP sustainability.

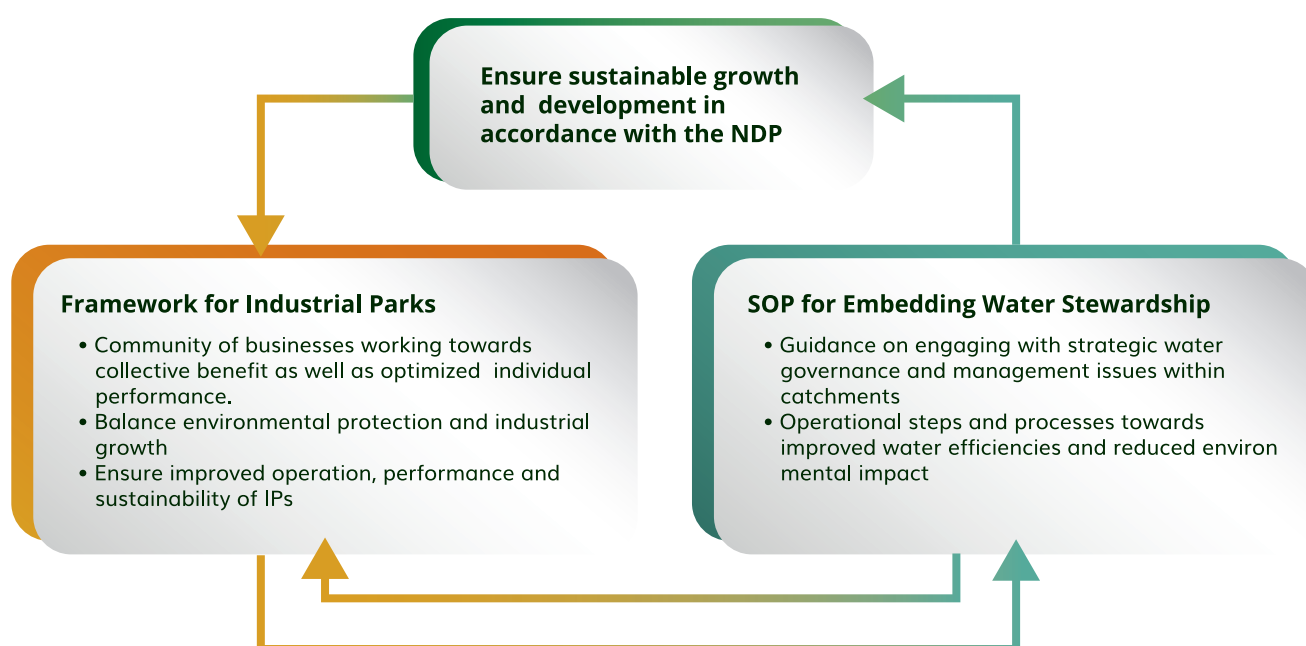


Figure 11: Water stewardship in support of sustainable economic development through IPs

Section 17 of the Framework explicitly refers to the need to look at the sustainability of IPs in terms of financial, socio-economic and environmental sustainability. This impresses upon IPs the need to reduce the negative environmental impacts (e.g., water pollution, ecosystem degradation, overexploitation of resources,) caused by industrial activities, but also the need for responsible business practices, which promote resource efficiency, ecosystem health, local community well-being and sharing of resources (such as information, materials, water, energy, infrastructure, and natural resources).

Noting that the core business of IPs is to provide opportunities for “enhanced environmental, economic, and social performance through collaboration in managing environmental and resource issues” this document provides step-by-step guidance as to how to undertake and progressively develop a water stewardship approach for IPs (Figure 12).

This Standard Operating Procedures document will help realise that, with specific objectives to:

- Sensitise and build a case for how IPs and park tenants can overcome water-related challenges and improve social and economic viability by embedding water stewardship in their operations and management.
- Provide structured guidance through a series of logical steps on the integration of water stewardship practises into the operating environment of the IP and park tenants.
- Simplify the mainstreaming of water stewardship into IP and business operations, by establishing a standardised approach for embedding water stewardship.
- Provide tools that can support the implementation of water stewardship practices for IPs and park tenants.
- Serve as a reference for a broad group of stakeholders involved and interested in the sustainable management and growth of IPs and business.

3. FRAMEWORK TO IMPLEMENT WATER STEWARDSHIP IN IPs

3.1. Four-phased approach

The process for embedding water stewardship in IPs consists of four interlinked phases. Each phase consists of intermediary steps which are built around ensuring that IPs are established as centres of excellence for water management, supported by water stewardship approaches.

Each phase in the framework is distinctive and all the phases are interconnected. The implementation of the phases can be conducted in parallel, or chronologically, depending on the requirements for the achievement of stewardship outcomes. From the materials referred to in section 1 of this document, it is evident that there are several "journeys" that could be undertaken, and in effect, there is no one "correct" path. As such, it is important to be clear on the objectives and priorities and to then develop the appropriate journey for the IP.

Wherever possible, it will be important to harmonise the mainstreaming of stewardship actions by the IP and its management team with those actions being undertaken by the various park tenants. Of course, alignment would support a more collective approach that can realise greater impact. However, practical pragmatism is important, and adopting approaches that enable the delivery of results is of paramount importance.

The methodology is not meant to be intimidating, but rather meant to foster practical ease and provide clearly defined reference points to ensure water stewardship progress and success in IPs, and for the park tenants.

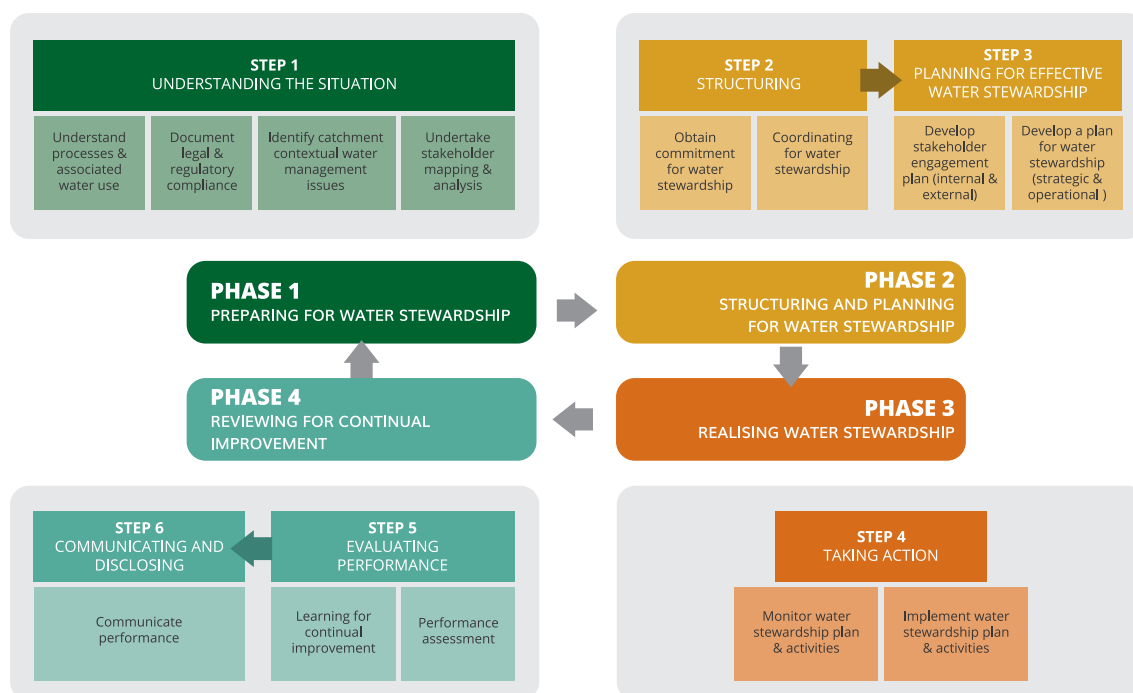


Figure 12: Process for embedding water stewardship in IPs

PHASE 1: Preparing for water stewardship

The stewardship journey is started by gaining a more complete understanding of the water-related context and the associated water risks. These will need to be considered at the various scales of business/park tenant, IP and catchment, to gain a more complete understanding regarding the nature of the different risks. It will also be important to understand the interplay of these risks with other key resources, such as energy. Similarly, gaining an understanding of these aspects with upstream and downstream business is important for developing a more complete picture of the risk.

This will entail determining the water use requirements (which include consumptive water use and wastewater discharge) and this should be supported by data and information. This may require the initiation of improved data collection through a more rigorous monitoring regime, especially when considering more indirect water use and impacts. This is also needed to inform the adherence to various regulatory compliance requirements. Understanding the broader catchment context and shared concerns with regards to water supply, water resource management, the sustainable management of ecological infrastructure and the overall need to support socio-economic development is an important step. This needs to be supported by a thorough stakeholder assessment, to determine who these key actors are and what their varying levels of influence and impact are.

This situation assessment is foundational, providing the basis from which the necessary process planning can take place. This will require discussion at the IP and park tenant level to understand business level and collective interest, exchange on process and to enable collective approaches. This will create some alignment in process, provide the opportunity to exchange knowledge and may save some duplication of effort.

PHASE 2: Structuring and planning for water stewardship

GOOD TO KNOW

All issues identified in PHASE 1 do not have to be addressed in your first water stewardship plan.

You should prioritise issues that need to be addressed immediately and issues you can make progress on, as well as position for action on additional water stewardship concerns in the next iterations of your plan (WWF, n.d.)

Developing a structured and coordinated approach is essential to enabling effective water stewardship, especially within the IP context. Not all tenants will have the same levels of risk or environmental footprint, whilst some will be operating in a larger corporate context and should adhere to strategic and shareholder requirements. There will also be IP level differences, with IPs having varying levels of collective support and management. This will need to strategically connect with the purpose and objectives of the IP.

Therefore, obtaining clarity about the stewardship intent and objectives at the IP and park tenant levels, and clarifying roles and responsibilities will be important. Deciding on the internal investment that is required to drive water stewardship actions will be equally important. This information is key in securing the commitment of senior management and for delegating authority to an individual or entity to convene and effectively drive water stewardship initiatives, be these at IP or business level.

Translating the situation assessment data and information into a strategy and plan that guides the water stewardship actions to be pursued at both IP and park tenant level is important, noting the investments that are being made. Thus, providing milestones and targets is essential. This will also entail developing a stakeholder engagement plan, highlighting how and when key stakeholders will be engaged and mobilised as part of the process, and will need to consider broader catchment-level processes.

Developing clarity with regards to process management and oversight will be needed and will provide the platform for guiding and overseeing the implementation of the water stewardship plan. This may use a "nested" approach with an IP level committee or forum, supported by committees or working groups within each business.

PHASE 3: Realising water stewardship

Implementing the water stewardship plan in a structured and monitored manner will realise incremental improvements in business/park tenant, IP and catchment-level water supply, water resource management and environmental impacts. Noting that these may take time to come to fruition, the ongoing coordination and oversight of forums, committees and working groups will be essential and will need to be underpinned by ongoing communication and awareness creation. This will require ongoing monitoring and reporting regimes, as documenting process and progress is an essential part of being able to undertake progress reviews.

PHASE 4: Reviewing for continual improvement

Responding adaptively to progress and circumstance will be critical. This may require adjustment to plans and approaches and keeping management at IP and park tenant levels apprised of the adaptive management requirements including the associated implications.

Whilst ongoing progress review is important, it is equally so to have more detailed evaluations at designated timelines. These more detailed processes will assess the impact (positive or negative) that implemented stewardship initiatives are having on managing the shared water risks, at various scales. These will then provide clear indication on how to improve the implementation of stewardship actions and will guide the overall strategy for the next stewardship iteration.

Ongoing communications are important, but after more detailed evaluations, communicating and disclosing information on the performance and impact of water steward actions and plan to key stakeholders is important, and a key dimension of stewardship. Noting that this is a journey of continuous improvement, it is important to disclose when things have not gone well and how the approach is being adapted to ensure improvement.

GOOD TO KNOW

Keep in mind that you are not required to disclose business confidential or otherwise sensitive information, and you are in control of your messaging.

3.2. Understanding IP and park tenant roles

There will be variances in approaches across IPs, due to the way in which IPs are governed and managed. This will impact on the role of the IP and park tenants, and how these support collective action and action within each business. The roles of the IP and the businesses/park tenants are highlighted in the subsequent sections of this guideline. This is done under the broad principle that each IP will have a management team that will take the lead on park-level interventions and will provide support to catchment-level issues on behalf of the entire IP. This team will also provide some internal support and guidance to park tenants. Some individual business will choose to engage on broader strategic level water issues, and this will also support stewardship at the IP, but should be done in coordination with the IP management team and be aligned to the strategic approach at the IP.

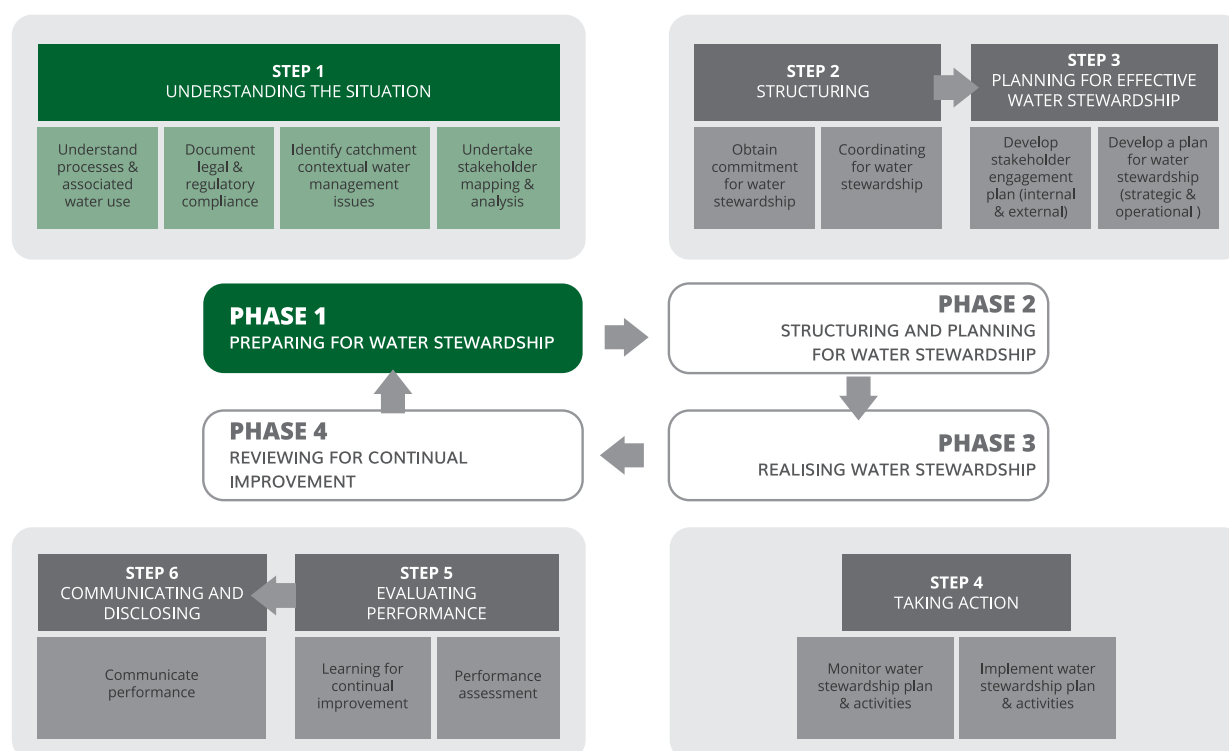
PHASE 1: PREPARING FOR WATER STEWARDSHIP

The starting point in preparing to achieve water stewardship, is understanding the status quo and gathering the necessary data and information, and documenting this in a structured and coherent manner. This will need to take place at the IP level, as well as at the individual business/park tenant level, and some kick-off discussions between the IP management and park tenants will provide some direction to processes.

Therefore, Phase 1 is operationalised by the following steps and actions:

Step 1: Assessing the situation comprises the following actions:

- **Action 1a:** Understand processes and associated water use
- **Action 1b:** Document facility-based legal and regulatory compliance
- **Action 1c:** Identify catchment contextual water management issues
- **Action 1d:** Undertake stakeholder mapping and analysis



STEP 1: Understanding the situation

Action 1a: Understand processes and associated water use

Formulating an understanding of the various processes and the associated water use activities that are necessary to support these is an important first step. This will include both direct and indirect water use, and understanding the related water management system/s and infrastructure. Mapping this to reflect water supply and discharge points and related infrastructure for the site is important. Documenting the status of infrastructure and associated capacities, including the operation and maintenance regimes is essential.

The collection of water-related data underpins an understanding of how much water is being used through various processes, and the associated water quality dimensions. Developing a water balance is an important part of tracking water use and water quality impacts and should be done on a regular basis. This would need to consider the total inflows, total storage, and total outflows.

Developing routine monitoring programmes with associated monitoring protocols, as well as systems and platforms that enable data and information management is important if not in place and should be developed to assess:

- volume of incoming water supply
- volume of water losses and consumptive water use
- volume of water storage
- volume and flow of water outflows (including wastewater discharge and site drainage)
- quality of water inflows
- quality of water outflows from key processes
- quality of wastewater discharge

Industry norms and benchmarks for processes and associated water use should be documented.

During this process, it is important to understand indirect water use, which includes gaining an understanding of the primary input commodities, determining the amount of water that is used to produce a unit of the commodity and determining the amount of this commodity that is used in the site's production processes. This is particularly important when this input commodity is produced within the catchment area of the IP. Other indirect uses that could be associated with cleaning and developing an assessment of the water used in these processes would be needed to give a more complete picture of water use.

Documenting the on-site water services and sanitation facilities is also important, noting the adequacy of these and how they comply with regulatory requirements, as well as meeting the gender, religious and vulnerable group needs.

Collating and documenting the financial requirements is also necessary and would be supportive of not only gaining senior management support for water stewardship, but also for planning future interventions. This would include costs related to water supply, water treatment, monitoring of water quality, operations and maintenance costs for water-related infrastructure. Similarly, fees for consultant support and various administrative issues, associated risk mitigation interventions, as well as costs associated with stewardship and stakeholder engagement.

With the above-mentioned data and information, it is possible to develop a sense of the physical and reputational water risks. These risks should be documented in the risk management framework and register that enables tracking of progress in mitigating these risks.

KEY PROCEDURAL ACTIVITY				
UNDERSTAND PROCESSES AND ASSOCIATED WATER USE	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Establish monitoring stations and develop monitoring intervals for site water-related data.	Environmental Officer / Environmental Health and Safety Officer / Process controller			
b) Gather data and information on: i. water quality, water quantity, ii. water balance information, iii. budget and costs of water and related processes, iv. water usage on in organisation's supply chain,	Environmental Officer / Environmental Health and Safety Officer / Process controller			

KEY PROCEDURAL ACTIVITY				
UNDERSTAND PROCESSES AND ASSOCIATED WATER USE	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
v. WASH services, vi. condition of water infrastructure built and ecological, vii. water stewardship initiatives.				
c) Develop a standard electronic format for documenting gathered water-related data.	IT specialist			
d) At a park tenant level submit relevant water-related data and information to management entity of the park	Environmental Management Officer/ Environmental Health and Safety Officer/ Superintendent	Monthly		
e) Gather and collate water-related data from park tenants.	Management entity of the IP	Monthly		
f) At an IP level submit water-related data and information to: i. relevant officials at the dtic, ii. provincial department of economic development, iii. the local municipality	Environmental Management Officer/ Environmental Health and Safety Officer/ Superintendent			
g) Develop an understanding of indirect water use, in terms of water used to produce input commodities and through activities such as washing and cleaning	Environmental Management Officer			
h) Develop a water risk management framework outlining risk areas, risk management and mitigation actions and timeframes for undertaking these actions	Environmental Officer/ Environmental Health and Safety Officer			

Action 1b: Document legal and regulatory compliance requirements

There is a range of legal and regulatory requirements at the IP and at individual business/park tenant level. Documenting the legal and regulatory compliance requirements not only enables the verification of the various steps needed to comply with the differing legal requirements, it also provides a structure for monitoring and demonstrating/reporting adherence to the various requirements. Having this information consolidated and accessible is important.

The water-related and environmental protection legal and regulatory space for IPs and park tenants will vary according to the nature of the industry, the source of water supply and the nature of wastewater discharge and the nature of environmental impacts. Generally, these issues are governed by national and local legislation, and likewise, are administered through national and local government. These instruments include:

- The National Water Act (Act No. 36 of 1998) (NWA) and relevant regulations provide the legal and regulatory framework for the effective and sustainable management of water resources. The NWA is administered through the DHSWS and is the primary water-related legislation for water users who abstract raw water (directly from the resource) and discharge treated effluent (back into the resource). Authorisation for water use is provided through a license that provides clear authorisation conditions.

- IPs and park tenants should demonstrate compliance to the National Environmental Management Act (Act No. 107 of 1998) (NEMA) and relevant regulations. The NEMA is framework legislation and ensures co-operative environmental governance by establishing procedures for decision-making on matters affecting the environment. In accordance with NEMA, prior to the establishment of IPs, an environmental management plan (EMP) and feasibility study needs to be conducted. The NEMA then regulates compliance of IPs and park tenants to the conditions set out in the EMP.
- At a local level, municipal bylaws regulate the discharge of treated wastewater effluent in the municipal sewer system. Most IPs receive their water from the municipal water supply, and as a result, IPs (including park tenants that discharge into the municipal systems), should reflect compliance to the municipal bylaws of their area of jurisdiction.

This is then supported by the gathering of data and information to reflect compliance with the various legal and regulatory instruments to date. This needs to be captured in the form of datasets and supporting reports. Noting that some IPs are embracing eco-industrial park principles, there may be some form of reporting required by park tenants to the IP environmental management unit.

KEY PROCEDURAL ACTIVITY				
UNDERSTAND PROCESSES AND ASSOCIATED WATER USE	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Collect and document data and information reflecting compliance to water use licence conditions for: i. storing water ii. abstraction of water from a water resource iii. discharge of wastewater in a manner which may detrimentally impact on a water resource iv. discharge of wastewater which contains waste from, or which has been heated in, any industrial or power generation process	Environmental Officer/ Environmental Health and Safety Officer/Process controller	Quarterly		
b) Collect and document data and information reflecting compliance to municipal bylaws regarding: i. the volumes of potable water that is supplied by the municipality, and allocated to the IP ii. volumes of wastewater discharged into municipal sewer systems iii. effluent quality standards of discharged wastewater iv. storm water connections to municipal sewer system	Environmental Officer / Environmental Health and Safety Officer/Process controller	Quarterly		
c) Collect and document data and information reflecting compliance to conditions set out in the Environmental Management Plan (EMP) with regards to: i. air quality management ii. energy management iii. waste management iv. pollution prevention of sensitive areas	Environmental Officer/ Environmental Health and Safety Officer	Quarterly		

KEY PROCEDURAL ACTIVITY				
UNDERSTAND PROCESSES AND ASSOCIATED WATER USE	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
d) Document in electronic platforms or handwritten data and information demonstrating compliance: i. Water use licence conditions ii. Municipal bylaws iii. Environmental Management Plan	Environmental Officer/ Environmental Health and Safety Officer			
e) Submit data and information reflecting compliance to water use licence conditions, EMP conditions and municipal bylaws to: i. Park environmental management unit or ii. Any other relevant authority as per legal requirement	Environmental Officer/ Environmental Health and Safety Officer	Monthly		
f) Compile water-related regulatory risks and add to the water risk management and mitigation register	Environmental Officer/ Environmental Health and Safety Officer	Monthly		

For useful guidance on water risks see the following:



<https://ceowatermandate.org/university/101-the-basics/lessons/assessing-your-business-water-risks/>

<http://www.iwasp.org/what-we-do/water-risk-and-action-framework>

Action 1c: Identify catchment contextual water management issues

During the initial actions, a grasp of the various water-related risks would have been gained. These risks do need to be understood within the context of the broader catchment. Catchment-level water management issues can be multiple and often have complex foundations. Therefore, IPs should clearly understand the scope of these issues and the influence or risk such issues have on the site operations. On the other hand, it is essential that the IP understand its impact of the catchment, the status of water resources and on ecological infrastructure. This does require some level of understanding of the broader socio-economic context of the region, and how water supports society and economy. This enables the IP and its park tenants to understand the important linkages between their water-related risks and those risks across the catchment. This is central to the notion of water stewardship and establishes the basis for collective approaches and developing a sense of shared risk.

The key catchment-level issues that IPs should be cognisant of during the review include:

- water-related social and economic issues
- quality and quantity of local water resources
- the biodiversity and ecological health and integrity of the catchment
- WASH factors and conditions
- impacts of upstream and to downstream users
- disaster risks (flood and drought)

Whilst this may be current in its initial premise, it is important that the collective discourse on risk looks to the future and how ongoing growth and development needs impact upon the catchment, its water resources and ecological infrastructure. This may be in the form of a trend or scenario analysis and can be supported by information that should be contained in the various regional planning instruments. IPs can identify the catchment contextual water management issues and approaches towards future growth by reviewing the catchment's existing long-term planning documents such as:

- Catchment Management Strategy
- Integrated Development Plan
- Water Reconciliation Strategy for the Water Supply System
- All Towns Reconciliation Strategy
- Integrated Development Plan and Local Economic Development Plan for the area
- Spatial development frameworks

Alternatively, IPs can privately undertake more detailed studies on the impact catchment water-related risks have on site operations and the impact that these operations have on the catchment, especially downstream of the park. Of course, these assessments can be undertaken collectively with other partners to gain a more comprehensive understanding and can be taken to scale.

The data and information collected during the review should be documented and used as a basis for the ongoing monitoring of the key catchment-level issues. This information will be essential in supporting stakeholder engagement under Action 1d.

KEY PROCEDURAL ACTIVITY			
UNDERSTAND PROCESSES AND ASSOCIATED WATER USE	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION
			IP
a) Collate and document the data and information on respective socio-economic conditions of the catchment	Corporate Social Responsibility Officer	Annually	
b) Collate and document information on the water resources in the catchment: i. quantity of the groundwater reserves and surface water sources, ii. water-related disaster risks (floods and droughts – map out drought and vulnerable areas).	Environmental Officer/ Environmental Health and Safety Officer	Annually	
c) Collate and document data and information on water quality challenges affecting the catchment	Environmental Officer/ Environmental Health and Safety Officer	Annually	
d) Collate and document information on the activities of upstream and downstream users and the impact activities have on water sources.	Environmental Officer/ Environmental Health and Safety Officer	Annually	
e) Map out the location/boundary of the IP in relation to: • water sources – river, aquifers • wetlands • critical biodiversity in relation to the business IP and catchment	Environmental Officer/ Environmental Health and Safety Officer/ GIS specialist	Annually	

KEY PROCEDURAL ACTIVITY			
UNDERSTAND PROCESSES AND ASSOCIATED WATER USE	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION
			IP
f) Collate and document information on linked ecological infrastructure and area of importance to biodiversity	Environmental Officer	Annually	
g) Collate and document information on access to WASH services and reflect whether there is a need for improvement, include information on the catchment's WASH related incidents.	Corporate Social Responsibility Officer	Annually	

Action 1d: Undertake stakeholder mapping and analysis (internal and external)

Getting a complete understanding of stakeholders to the IP and the businesses/park tenants is an important step towards more collective approaches and water stewardship. There are a significant number of partners and allies who share concerns for water and the associated risks. Therefore, a stakeholder mapping and analysis process provides IPs and park tenants with an understanding that supports planning for effective engagement at various scales (within business, within the IP, within catchments) as well as guides the level of support in the execution of water stewardship actions.

To develop the facility's representative water stewardship stakeholder map, IPs and park tenants are encouraged to identify and list stakeholder groups (or individuals) who they require to engage. Engagement can take on differing forms and there are various frameworks that describe this spectrum. This includes:

- **Inform:** Providing information to enable stakeholders to understand what is being undertaken, reasons for this, possible outcomes and identified timelines
- **Consult:** Holding meetings to discuss processes and outcomes and to garner insights and inputs into the proposed activities
- **Involve:** Taking the lead on initiatives and ensuring that other organisations or groups with a common interest participate and provide inputs into processes
- **Collaborate:** Working as partners to undertake interventions that tackle common challenges and address shared risks towards an agreed upon outcome

Developing an understanding of the potential power and influence of these stakeholders have on water stewardship actions guides the nature of the engagement and influences the platforms that can be used to support the exchange of information. Understanding these elements earlier on in the process provides the foundation for meaningful engagement and the development of trust, and provides the basis for the structuring of engagement processes that is undertaken during Phase 2, Action 2c.

KEY PROCEDURAL ACTIVITY				
UNDERSTAND PROCESSES AND ASSOCIATED WATER USE	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Identify and list relevant internal and external stakeholders to be engaged to support planning as well as execution of water stewardship actions	Communications Officer	Annually		
b) Ensure that the stakeholder list documents the following data and information: i. specific entities in each stakeholder group, ii. contact details of key people,	Corporate Social Responsibility Officer/ Environmental Officer	Annually		

KEY PROCEDURAL ACTIVITY				
UNDERSTAND PROCESSES AND ASSOCIATED WATER USE	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
iii. linkage to the business/IP, iv. influence, interest, impact of stakeholder v. engagements required, vi. key messages for each stakeholder				

Good Practice Example



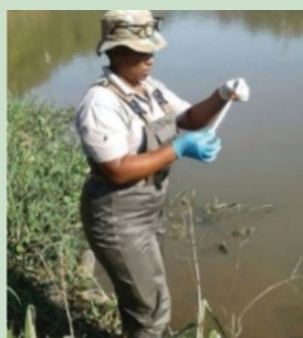
UMBOGINTWINI INDUSTRIAL COMPLEX LESSONS FROM THE WIZE WAYZ WATER CARE PROJECT

OVERVIEW:

The Umbogintwini Industrial Complex (UIC) owned by AECl initiated the Wize Wayz Water Care Project (WWWCP) in the Mbokodweni catchment area. AECl provides financial support and appointed an implementing agent for the WWWWCP activities. The Mbokodweni river borders AECl operations, and is the abstraction point for raw water supplies to the IP. Community members who volunteered to be part of the WWWWCP were trained and upskilled in undertaking the various project activities. This included identifying and removing alien invasive species along the Mbokodweni river. Community members were trained in conducting water quality testing and monitoring, utilising citizen science tools and elementary water quality testing tools to support the routine aquatic monitoring activities. Furthermore, community members were trained in how to sensitise and raise awareness in the community on water conservation and how to be good environmental stewards. They were provided with training and tools on how to conduct plumbing to attend to water leaks and reduce the wastage of water in the community. The training provided to the community members helped in supporting project activities community engagement and education.

Other training that community members received supported the following project activities: recycling and upcycling of collected waste, crafting with materials destined for landfill, and community vegetable garden.

KEY OUTCOMES AND LESSONS ON COLLECTING WATER-RELATED DATA



Through the WWWW, the beneficiaries are using citizen science water quality monitoring tools, such as the MiniSASS, to collect data on the streams' water quality and the river health. The data collected is used to inform and alert the municipality when there are abnormalities/ bursts of sewerage pipes. This indicates that collecting water-related data does not necessarily have to use the most science-intensive methods. Acacia is able to rely on simplified data collection tools to provide the first snapshot of water quality conditions in the catchment

Source: WRC, 2017

PHASE 2: STRUCTURING AND PLANNING FOR WATER STEWARDSHIP

Having a more complete understanding of the situation and the various water-related risks provides the basis for guiding the nature of water stewardship. It is therefore important to then plan for action towards addressing these risks. This will require the support of management, noting that there will be costs involved. This will require an iterative process of engagement in developing the appropriate stewardship approach, bearing in mind that collective action with other businesses and the broader IP may result in more effective and efficient collective action.

The process of structuring and planning for effective water stewardship encompasses the following steps and actions:

Step 2: Structuring, which is underpinned by the following:

- **Action 2a:** Obtain commitment for water stewardship
- **Action 2b:** Coordinating for water stewardship

Step 3: Planning for effective water stewardship, which is underpinned by the following:

- **Action 3a:** Development of a stakeholder engagement plan
- **Action 3b:** Development of a water stewardship plan

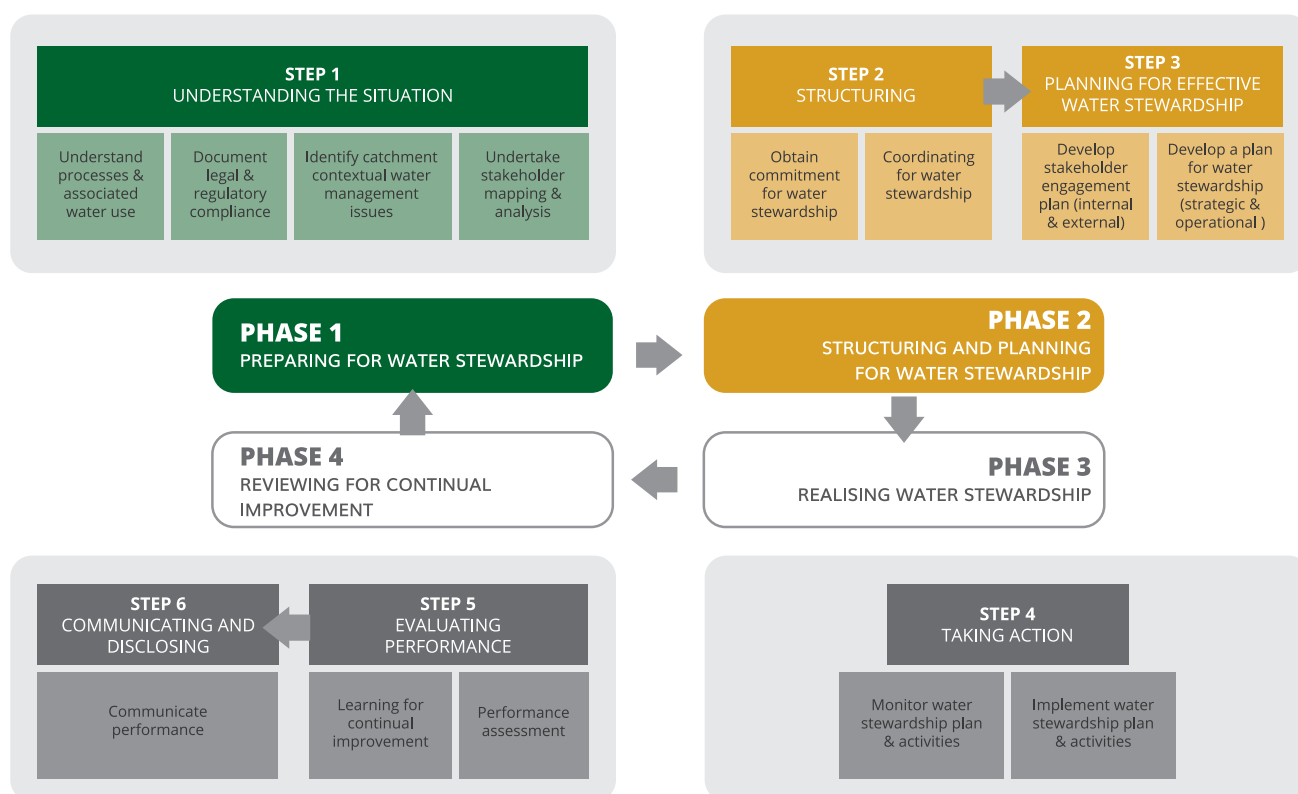


Figure 14: Phase 2 Structuring and planning for water stewardship

STEP 2: Structuring

Action 2a: Obtain commitment for water stewardship

There are a range of operational and financial implications that arise from engaging in water stewardship. These should not be underestimated, and the analyses completed during Phase 1 will present a case for this kind of investment. Thinking through how these can be collectively addressed is important, as some economies of scale can be realised. Likewise, how these are considered at IP scale versus elements that are addressed

at business/park tenant level need to be considered (Action 2b). These various options and scenarios will need to be documented as a strategic concept note or business case that can be presented to senior management to gain the required commitment. The requirements of this business case will vary according to business practices and local contexts and will require some rigour to support senior management in its decision making. Important to consider are elements such as:

- Key water-related risks and their impact upon the business and the IP
- Alignment to the corporate goals and strategic objectives of the business and/or IP
- Alignment with the catchment and regional water-related planning objectives
- Operational implications and potential long-term and short-term benefits
- Performance and reputational benefits
- Estimate of financial and human resource implications

Securing leadership commitment might require lobbying and several discussions as an iterative process, especially where significant investment may be needed. Also, Actions 2a and 2b need to be undertaken together with engagements with IP managers and business/park tenant representatives, to reach an agreement on a common approach.

It is also important to consider that some businesses have a broader strategic and corporate level approach towards water stewardship that is linked to international shareholders. In these instances, there may require a corporate level approach to stewardship. Gaining alignment with such corporate level approaches will be important.

This commitment will need to be formalised, and getting a signed agreement or Memorandum of Understanding will be important to obtain.

GOOD TO KNOW

Pledging commitment can have significant impact within a business or IP, garnering support and injecting energy into staff and stakeholders. Communicating and disclosing this pledge is important, and establishes a social contract to realise improvements in water use and management practices.

KEY PROCEDURAL ACTIVITY				
OBTAIN COMMITMENT FOR WATER STEWARDSHIP	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Develop a concept note or strategic business case to outline potential implications for the business IP	Environmental Risk Officer/ Environmental Health and Safety Officer			
b) Obtain buy-in and support from senior management	Senior or top management			
c) Develop an MoU or Pledge or Agreement to be signed by leadership committing to water stewardship	Senior or top management			
d) Document commitment provided to stewardship actions to ensure that stewardship actions are effectively resourced with the right kind of support.	Senior or top management/ operational managers	Quarterly		
e) Provide supporting evidence of commitment.	Senior or top management	Quarterly		

Good Practice Example



UMBOGINTWINI INDUSTRIAL COMPLEX LESSONS FROM THE WIZE WAYZ WATER CARE PROJECT

OVERVIEW:

Commitment and buy-in for water stewardship practices take time, and is not an overnight process. It requires financial investment, as well as the commitment of staff. It also requires recognition of the fact that corporate branding can be exposed to some level of risk. During the implementation of the WWWC project, the AECl Project Champion required the ongoing support of senior management to maintain the corporate investment. Gaining this internal commitment was key, without which the project would not have succeeded. This commitment enabled the stewardship approach to become entrenched within the business and its operations, and to become a standard item on the agenda of senior management meetings. To motivate senior management to continue endorsing every phase of project, the AECl Project Champion always provided feedback and progress updates.

Externally, the AECl Champion, as well as the implementing agent of the project, had to mobilise the community members/ project beneficiaries to join the project. This was not an easy feat, as the project was initiated on a voluntary basis and community-level benefits took time to be realised.

However, commitment from certain community members was gained by being transparent about the intention of the project, and the role that the community could play, from the beginning, as well as outlining the potential benefits. Transparency and clear communication have played a big role in keeping the community members that are part of the project motivated and committed throughout all the phases of the project.

KEY FEATURES OF COMMITMENT FROM AECl:

- Financial Commitment:
 - 2017/2018 FY there was a R5.1 million total company expenditure on project
- Election of a dedicated project coordinator
- Appointment of an independent project implementing party
- Provided training to beneficiaries
- AECl leadership and management endorsement was key to the ongoing success

(Adapted from Trialogue, 2018 <https://trialogue.co.za/aeci-wise-wayz-water-care-co-winner-of-the-trialogue-strategic-csi-award-2018/>)

Action 2b: Coordinating for water stewardship

There is inherent complexity in most water stewardship processes noting the various risks and the range of actors at business, IP and catchment scales. To be effective and efficient coordination is paramount and can create the basis for an unambiguous approach that is understood by all actors and stakeholders. This will require significant and frank discourse to align goals and objectives. Equally, this enables the establishment of some clarity as to potential roles and responsibilities in support of interventions.

For businesses/park tenants and IPs, coordinating for water stewardship is a two-fold process, with various interventions potentially occurring at a wider strategic level as well as at more local and operational levels.

The process to secure leadership commitment (Action 2a) will require due consideration of the risks and implications at these levels, and will most likely require an iterative engagement with business and IP management, as noted above.

Understanding shared risk and the nature of these risks (physical, regulatory and reputational) is essential, and will guide the degree to which collective approaches are possible and how these can be undertaken. There will most likely be upstream and downstream issues that require due consideration, and this will need some degree of discourse regarding the options for water stewardship approaches that connect these, to develop more holistic and catchment-level responses.

This will require some discussion regarding issues such as:

- How are existing water stewardship approaches and other initiatives in the catchment linked to the IP and its park tenants for a more holistic approach?
- How are local and operational approaches linked to have better impact at the IP and catchment levels?
- What are the various upstream and downstream water-related dimensions that require consideration in the approach to water stewardship?
- How are shared legal and regulatory compliance issues dealt with?
- How are data and information captured and shared to support the management of water resources in the catchment, and support in meeting regulatory requirements?

This will be supported by identifying key individuals that can undertake roles and responsibilities, and by determining the types of management platforms that can be used to support coordination and oversee collective action. This could include:

- An IP cluster approach that enables collective action for the IP and park tenants
- Existing platforms, such as the local business chamber or chamber of commerce
- IPs and park tenants who individually pursue water stewardship actions, or
- A broader stewardship platform/forum that enables cross-sector and multi-stakeholder engagement (linked to Action 3a)

A comprehensive review and rationale for each of the options listed above is presented in Section 8.

KEY PROCEDURAL ACTIVITY				
COORDINATING FOR WATER STEWARDSHIP	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Identify common goals and objectives for engaging in water stewardship	Senior or top management/ Environmental Manager	Ongoing		
b) Identify and adopt a clear approach and platform for coordinating for water stewardship actions	Senior or top management/ Environmental Manager	Ongoing		
c) Identify and delegate individuals and resources for driving water stewardship initiative	Senior or top management and Environmental Manager	Ongoing		
d) Effectively resource individuals who have been delegated functions to undertake water stewardship initiatives	Senior or top management/ operational managers	Ongoing		
e) Ensure that the individuals who have been delegated functions to undertake water stewardship initiatives are trained and empowered on water stewardship	Senior or top management/ operational managers	Ongoing		

STEP 3: Planning for effective water stewardship

Action 3a: Develop a stakeholder engagement plan (internal and external)

GOOD TO KNOW

- The stakeholder engagement plan is two-fold, focusing on 1) how stakeholders will be engaged prior to water stewardship actions and 2) how stakeholders will be engaged and would contribute to the implementation of water stewardship actions.
- Stakeholder engagement helps in identifying partners for water stewardship actions and driving collective action initiatives to address shared water-related risks.

Stakeholder engagement is a participatory planning process that builds legitimacy and credibility for the water stewardship initiatives by ensuring that a range of voices are heard. In so doing, this engagement facilitates and provides a foundation for trust and collective action amongst stakeholders.

A stakeholder engagement plan provides a structured approach towards ensuring that stakeholders are effectively and appropriately engaged in water stewardship actions. This will include engagement within businesses and their internal operational teams, between businesses within the IP and also cover how the IP and park tenants engage with broader catchment-level processes. The stakeholder mapping and analysis undertaken in Action 1d will inform the development of this stakeholder engagement plan, as will the findings in Step 2.

Whilst the plan should contextualise how identified stakeholders will be approached and communicated with to support planning and prioritisation of water stewardship actions, a well-defined stakeholder engagement plan also helps to understand, manage and neutralise power/influence dynamics between stakeholders. To this end, the plan should articulate how marginalised groups and communities will be supported to effectively engage and provide inputs into processes.

Importantly, the plan must outline linkages to broader processes and articulate how communications across these various catchment-level processes will be supported. This must include the operational modalities

that underpin these processes, including how often meetings will be held, who will chair these meetings, what will the core principles that underpin the approach be, who will take minutes, what will be the timelines for circulation of agendas and minutes, and matters of venues and catering.

There are various engagement platforms that can be used for stakeholder engagement, such as round table discussions, focus group discussions and broader forums.

KEY PROCEDURAL ACTIVITY				
DEVELOP A STAKEHOLDER ENGAGEMENT PLAN	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Determine and document how you will engage with stakeholders that will inform: i. Identification of shared water risks ii. Identification and prioritisation of water stewardship actions	Environmental Management Unit	Ongoing		
b) Determine and document how you will engage with stakeholders that will: i. partner with on stewardship actions, ii. involve in stewardship actions iii. consult about stewardship actions iv. inform about stewardship actions	Environmental Management Unit	Ongoing		

KEY PROCEDURAL ACTIVITY				
DEVELOP A STAKEHOLDER ENGAGEMENT PLAN	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
c) Identify communication channels for engaging various stakeholders	Environmental Management Unit	Ongoing		
d) Establish or make use of existing neutral platforms for engagement	Environmental Management Unit	Ongoing		
e) Monitor stakeholder participation and document engagement statistics	Environmental Management Unit	Ongoing		

Good Practice Example



UMBOGINTWINI INDUSTRIAL COMPLEX LESSONS FROM THE WIZE WAYZ WATER CARE PROJECT

OVERVIEW:

The WWWCP did not have a stakeholder engagement plan, however this did not result in the omission of stakeholder engagement processes. The stakeholder engagement process developed organically as the project progressed, and engagements were convened when required. Nonetheless, the stakeholder engagements were critical in supporting clear communication to the project beneficiaries to understand and manage expectations. In addition, the engagement sessions provided momentum for processes and helped build ownership. Given the voluntary basis of the project, continuous stakeholder engagement sessions were critical for showing recognition and acknowledging the work that the project beneficiaries were conducting. Moreover, the convened stakeholder engagements kept project beneficiaries abreast with developments.

Parallel to the external engagements with the project beneficiaries, were the internal engagements within AECl internal staff members. The engagements occurred between the WWWCP AECl champion and the board members, who financed the project. The engagements were aimed at providing updates on the progress of the project, lobbying and getting buy-in from the board members for further intervention support. Internal engagements are just as critical as external engagements, as they also facilitate common understanding and help to secure commitment from leadership.

KEY LESSONS FOR STAKEHOLDER ENGAGEMENT:

- Stakeholder engagement can happen organically, however, having a stakeholder engagement plan is useful for structure and guidance and ensuring commitment.
- Be transparent with stakeholders to understand their expectations, what is expected from them and what they expect from you. This is quite critical if one is looking to partner with communities. Transparency provides credibility to the project and enables stakeholders to knowingly invest their time and resources.
- Internal and external stakeholders have different roles to play. As a result, the messages communicated to these stakeholders will differ. Therefore, it is important to ensure that the messages are pitched at the right level to the appropriate target audience.

Action 3b: Develop a plan for water stewardship (strategic and operational)

Developing the water stewardship plan requires the generation of a longer-term strategy that articulates the goals and objectives that guide the approach. This could be supported by a high-level theory of change or results framework that outlines the connectivity between goals, outcomes, outputs, and inputs. In developing this strategy, it is important to document the assumptions upon which the strategy is based.

It is imperative for the IP to have a well-documented strategy that guides businesses/park tenants to develop their own strategies that support those of the IP. This integrated strategic approach is key to ensuring impact. The water stewardship strategy effectively provides framing and direction for the development of operational plans at IP and business/park tenant levels. Effective integration across these plans is optimal, although not always easy to achieve.

Developing the water stewardship strategy and operational plan requires of the IP and business/park tenant to:

- Analyse data and information gathered during the situation assessment (Phase 1) to identify water-related risks (physical, regulatory, and reputational) at business/park tenant, IP and catchment levels
- Document the water-related risks and engage with stakeholders to develop the strategic intent towards water stewardship as well as the response actions
- Engage with stakeholders to prioritise immediate and long-term actions
- Ensure that the plan is clear on how it can be measured and monitored, has timeframes, a budget and responsible/accountable persons for each action

These operational plans must consider the various modalities and systems that are required to support the delivery of these plans and the tracking of progress. Ensuring clarity of roles and responsibilities supported by interventions to build capacity and provide training, will potentially be needed to support this.

Documenting these plans in a tabulated format makes for easier engagement of the actions, milestones and targets. Equally, a Gantt Chart can support in clarifying timelines and how certain actions will be undertaken in parallel with others.

KEY PROCEDURAL ACTIVITY				
DEVELOP A PLAN FOR WATER STEWARDSHIP	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Consult with the relevant stakeholders and agree on the targets and milestone for water stewardship initiatives. These are linked to water-related risks impacting on park operations and tenant operations.	Environmental Manager			
b) Prioritise water stewardship initiatives to be implemented in the first iteration of the water stewardship plan	Environmental Manager			
c) Assess the technical feasibility and economic, environmental and social benefits of the stewardship actions	Environmental Manager			
d) Document the roles and responsibilities of the stakeholders to undertake stewardship actions	Environmental Manager	Annually		
e) Gather information on the risks and develop a risk management framework/ plan. Document how the impact of shared risks will be responded to	Environmental Manager	Annually		

KEY PROCEDURAL ACTIVITY				
DEVELOP A PLAN FOR WATER STEWARDSHIP	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
f) Develop a resourcing plan for identified stewardship actions	Environmental Manager	Annually		
g) Develop a plan to ensure continued improvement on water-related legal and regulatory compliance and stewardship actions	Environmental Manager	Annually		

PHASE 3: REALISING WATER STEWARDSHIP

The preparatory work undertaken up to this point provides the basis for implementing actions towards water stewardship in a structured and timely manner, supported by approaches to monitor progress. This will require ensuring that the required resources are in place, and that there is clarity as to how the various actions at IP and business/park tenant level are linked and coordinated.

In Phase 3, the following steps and actions are:

Step 4: Taking action, which is underpinned by:

- **Action 4a:** Implement water stewardship plan and actions
- **Action 4b:** Monitor water stewardship plan and actions

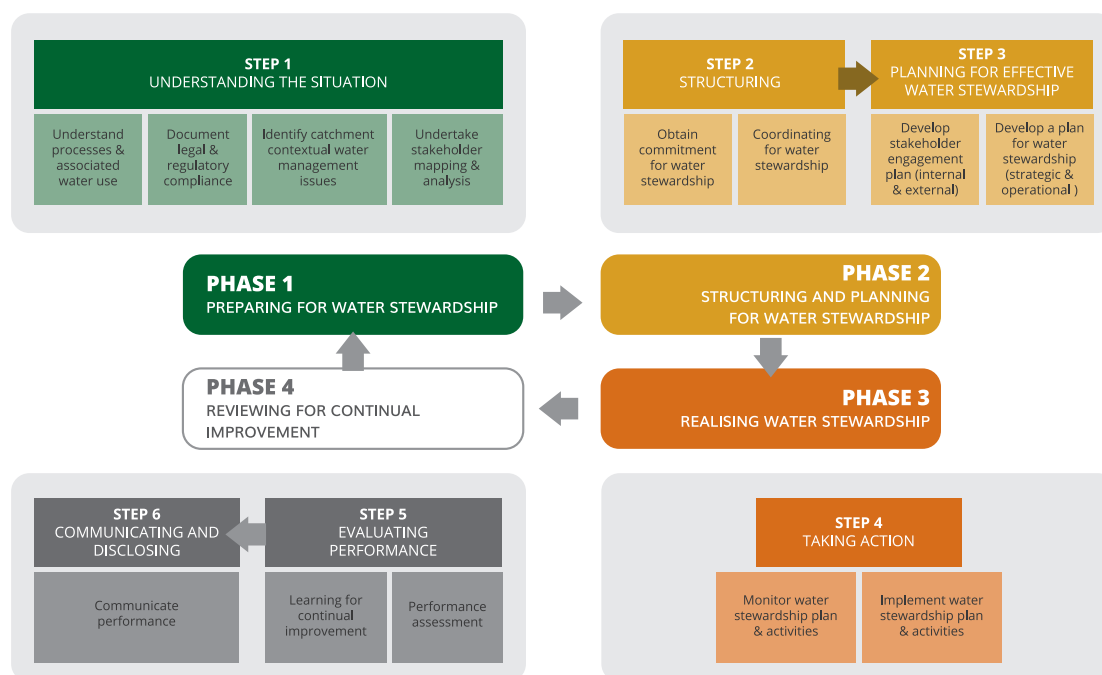


Figure 15: Phase 3 Realising water stewardship

STEP 4: Taking action

Action 4a: Implement water stewardship plan and actions

Implementing the water stewardship plan and its supporting suite of actions can be inherently complex. The action plan will be focused on core areas, such as:

- Sustainable water supply and efficient water use
- Adequate water quality and minimisation of waste discharge
- Protection and management of important ecological infrastructure and biodiversity
- Provision of sufficient WASH facilities
- Improved governance of water resources and catchments

Whilst in the planning stage there would have been clear discussion on how the activities at business/park tenant, IP and catchment levels will be linked and coordinated, ongoing communication and discourse over process and progress is necessary. Equally, ongoing reflection will be critical.

Effective connectivity between implementation processes and stakeholder engagements will need to be ensured and managed. This will not only aid in keeping stakeholders abreast of progress, but also assist in facilitating improved alignment across various interventions. In this regard, it is important to emphasise

that engagement with catchment-level institutions, as well as local government and key national government departments such as Human Settlements, Water and Sanitation and Trade and Industry, will be particularly important, noting the need to comply with regulatory requirements.

In most instances it is expected that the IP will represent the “interests” of the park in catchment level and more strategic national level water-related processes. Inputs into policy and strategy developments and catchment-level planning will be important, and the IP can engage in these processes with the understanding of the needs of the park. This will be particularly important during times of crisis (e.g., floods and droughts) where coordinated action is required.

REFLECTION

- Am I implementing the water stewardship actions according to plan?
- Have I deviated from the water stewardship action plan? Why?
- Is my water stewardship action plan too high-level or impractical? How do I adjust adaptively?

KEY PROCEDURAL ACTIVITY				
IMPLEMENT WATER STEWARDSHIP PLAN AND ACTIVITIES	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Implement the prioritised water stewardship actions identified in the water stewardship plan.	Partners, Environmental Management Unit, Implementing Agent	Quarterly		
b) Align stakeholder engagement with ongoing processes and engage with key government departments and catchment institutions on policy, strategy, regulation, planning and crisis interventions	Partners, Environmental Management Unit, Implementing Agent	Quarterly		

Good Practice Example



SASOL ACTING ON REDUCING WATER LOSSES AND IMPROVING MUNICIPAL INFRASTRUCTURE FOR THE LOCAL COMMUNITY IN THE ZAMDELA AREA OF THE METSIMAHOLO LOCAL MUNICIPALITY

In July 2015, Sasol entered into a water conservation/water demand management (WC/WDM) partnership project with Metsimaholo Local Municipality (MLM) in collaboration with Rand Water (as implementing agent), the German Development Agency (GIZ), and the Department of Water and Sanitation (DWS). The DWS contributed R4 million, Sasol R2.9 million and GIZ 60,000 Euros. The objectives of the project were to improve access to water for the local community in the Zamdela area of Metsimaholo Local Municipality through the implementation of Water Loss Reduction interventions. (Reduce water loss and improve municipal water infrastructure in the Zamdela area of Metsimaholo Local Municipality).

To ensure successful implementation of the Metsimaholo Water Loss Reduction Project, the project team acted in the following manner:

- The project actions used a two-phased approach, of which Phase 1 involved creating a baseline for the municipality's demand, through the installation of bulk zonal meters and loggers. The phase also included undertaking an assessment of water loss in the greater Zamdela area. The excess demand in the township was found to be close to 27%. The project team identified several technical interventions to help MLM reduce losses by 15%, as per the Vaal Reconciliation targets.
- The second phase of the project involved advanced pressure reduction and commenced in July 2016. At the commencement of Phase 2, Sasol appointed WRP Consulting Engineers to implement technical interventions identified in Phase 1.
 - * The first step taken by WRP Consulting was to establish the baseline for water demand and losses in the greater Zamdela region. This was done by understanding the water supply system in the greater Zamdela area, which was sectorised into 7 supply zones. The zones were then logged. The Minimum Night Flow (MNF) and the average flow (avg) were determined to be 122 m³/h and 148 m³/h, respectively. The MNF/Avg ratio was determined to be 82% which indicates very high leaks within this zone. The ratio should be less than 20% in a well-managed zone.
 - * Advanced pressure management then was implemented in the zones of Zamdela and Harry Gwala, by installing pressure-reducing valves together with controllers at the main zones. The pressure controllers were set to reduce pressure from the fixed pressure setting to a low pressure setting between 22:00 and 05:30 daily.
- During Phase 2, water use audits were conducted on the MLM's major consumers (mainly hostels and schools). For the top 12 water consumers, the municipality installed meters to correctly bill these consumers. These meters were then logged and showed that 8 of these top consumers had high water losses, equating close to 1000 m³/day.
- Additionally, education and awareness-raising within communities was conducted. The project team developed an education and awareness-raising programme. The programme involved the following:
 - * The development of an awareness programme, tools and materials to reduce the levels of non-payment.
 - * Promoting water conservation and responsible use.
 - * Improve community participation and interaction to ensure sustainability of the programme.
 - * Identification and integration of Water Conservation Warriors (WCW) and local plumbers into the programme; and
 - * Exploring supplementary funding options from private sector and/or NGOs.
- Another leg of the project, which was implemented under Phase 2, included training and skills transfer. Formal training was provided to the MLM on the operation and maintenance of control valves. A three-day training course was presented to seven delegates of the MLM. The course covered the basic operation and maintenance of control valves and gave delegates practical and theoretical exposure to this specialised field.

The interventions of the project resulted in the community having continuous access to water, and the municipality reducing demand to the area by 23%. This equated to a R9.4 million/annum saving, based on the 2017 Rand Water tariff. The success of the project water loss reduction project demonstrates the case for private sector investment beyond the factory fence-line.

Source: CEO Water Mandate, n.d. (<https://ceowatermandate.org/resources/water-loss-reduction-in-zamdela-metsimaholo-water-loss-reduction-project-2019/>)

Action 4b: Monitor water stewardship plan and actions

Monitoring the implementation of the water stewardship plan and actions is important for determining progress and supports alignment of the ongoing activities. Monitoring is also an important part of identifying and tracking key challenges that hinder progress, and the key success factors that can potentially be replicated.

Monitoring the implementation of the water stewardship plan and actions involves:

- identifying monitoring intervals for each of the targets and activities under the respective actions;
- establishing mechanisms to track progress on the activities aimed at implementing water stewardship; and
- documenting data and information into relevant electronic reporting templates or written reports.
- Noting that there are a range of regulatory requirements, this monitoring will support the businesses/park tenants and IPs in reporting on compliance.

It is important to note that monitoring does need to be continuous, commencing at the start of the implementation of water stewardship actions, through to the end of the first iteration of the plan or until specific actions have been completed, noting that the data and information gathered informs the next suite of interventions.

It will be important to establish an effective framework and data/information management “system” to efficiently collate this data and information and the associated reports. While this may be done electronically, it can also be done through the effective and structured collation of paper-based data records and reports. It is essential that this enables effective access to this data and information.

Whilst this will include quantitative data and information from the monitoring of water use, water quality, volumetric storage etc, it will be important to document the more qualitative assessments of progress too. Much of this will be captured in progress reports. In such progress reports, it will be important to document how and why what decisions have been made to support water stewardship. Businesses/park tenants and IPs will be making ongoing adjustments in approach to support water stewardship, and these require recording. Disclosure of this data and information as part of stakeholder discussions on process and progress is important and creates trust with stakeholders.

REFLECTION

- Has progress with regards to the implementation of water stewardship actions been according to plan?
- What have been the key challenges and how do these get unlocked for future efforts?
- What have been the key success factors, and can we leverage these for future actions?

KEY PROCEDURAL ACTIVITY

MONITOR WATER STEWARDSHIP PLAN AND ACTIVITIES	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Develop and establish monitoring and reporting protocols and systems to enable effective data and information collation and management	Environmental Managers	Ongoing		
b) Gather data and information on progress with implementing water stewardship actions	Environmental Manager	Ongoing		
c) Document data and information demonstrating the implementation of water stewardship actions and present this through communication instruments such as newsletters, quarterly reports or annual performance plans, as well as through stakeholder engagement processes.	Environmental Manager	Ongoing		

PHASE 4: REVIEWING FOR CONTINUAL IMPROVEMENTS

The final phase of the SOP provides a stock-take on process and progress made, to understand the successes and challenges. Detailed processes will need to be undertaken to assess the impact (positive or negative) of the stewardship initiatives that have been implemented, and assess the impact of the shared water risks, at various scales. This information provides the foundation from which to review, adapt and improve the Water Stewardship Plan going forward. Transparency, through communication, is a critical component of water stewardship, and this is actioned in this phase.

Phase 4 is supported by the following steps and actions:

Step 5: Evaluate performance, which is underpinned by:

- **Action 5a:** Performance assessment
- **Action 5b:** Learning for continual improvement

Step 6: Communicating and disclosing, which is actioned through:

- **Action 6a:** Communicate performance

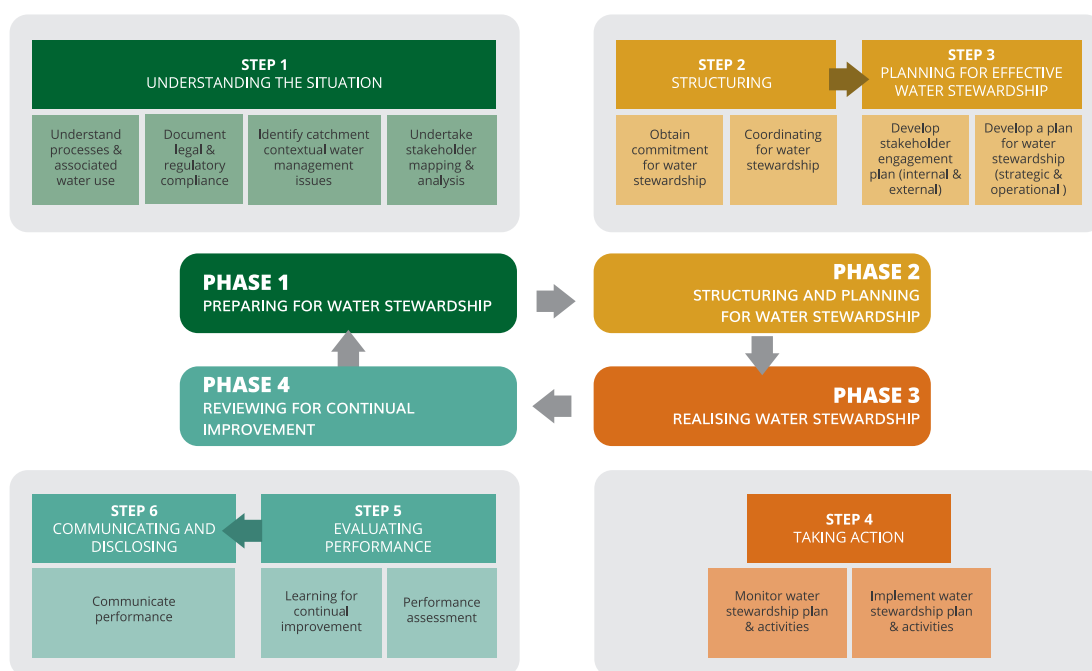


Figure 16: Phase 4 - Reviewing for continual improvement

STEP 5: Evaluate performance

Action 5a: Performance assessment

Performance assessment provides a crucial point in the process to review progress and reflect on the lessons learned, to make incremental improvements in the plan to achieve greater impact and success. Assessing the site's performance on the implementation of the water stewardship plan and actions provides information about:

- **the impact that water stewardship actions** have had on addressing water-related risks within and outside the IP
- **the risk exposure and risk mitigation** that was achieved for the business and its stakeholders

REFLECTION

- Did you achieve what you had set out to achieve?
- Are your efforts contributing to the shared water risks in your area?
- Are there areas where you would like to improve?

- **the financial gains** and value benefits, such as improved natural capital and ecosystem services resultant from water stewardship actions
- **the identification of the areas of improvement** going forward

The data and information gathered under Action 4b needs to be regularly reviewed and assessed to support adaptive management. A regular review routine and protocol is required to enable assessment of progress against targets and milestones that were set. How these reviews are structured and supported needs to be documented and agreed upon.

To undertake a more detailed performance assessment on the implementation of water stewardship plan and actions, IPs and park tenants should understand the cost benefit of implemented water stewardship actions, considering social, economic, and environmental impacts, together with the financial impacts. This will require a structured evaluation, with the impact assessment being based upon both quantitative and qualitative information, making for a more robust analysis of the overall impact of the actions. Gaining feedback reviews from key stakeholders will be an important part of this assessment.

It will be imperative then, to establish a structured and routine evaluation process and timeline. It is important to have an indication of the baseline situation, as well as a mid-term review and then an end-of-term evaluation. The complexity of actions may make such an evaluation difficult and understanding causality in water stewardship processes can sometimes be unclear. Using independent assessments can be useful in mitigating bias, but in some instances, these evaluations are undertaken by a steering committee or some form of governance body.

KEY PROCEDURAL ACTIVITY				
PERFORMANCE ASSESSMENT	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Develop and establish monitoring and reporting protocols and systems to enable effective data and information collation and management	Environmental Managers	Ongoing		
b) Gather data and information on progress with implementing water stewardship actions	Environmental Manager	Ongoing		
c) Document data and information demonstrating the implementation of water stewardship actions and present this through communication instruments such as newsletters, quarterly reports or annual performance plans, as well as through stakeholder engagement processes.	Environmental Manager	Ongoing		

Action 5b: Learning for continual improvement

Continual improvement is a key principle to water stewardship, with the results of some initiatives only realising impact at later stages and after iterative process improvements. As a result, water stewardship does need to be understood as a learning journey on how to continuously improve response to water-related risks affecting operations and the broader catchment. Therefore, it is important for businesses/park tenants and IPs to make longer-term commitments to continually improve in the implementation of water stewardship actions, to achieve long-term resilience against water-related risks.

To give effect to continual improvement, IPs and park tenants should build on the results of the ongoing reviews and performance assessments, to determine which areas in the water stewardship plan should be revised, adapted and/or updated to address identified water-related risks. This provides the foundation for

new and improved milestones and targets to keep the process moving forward and needs to be documented. IPs and park tenants may need to undertake research, and communicate with other industry actors who are also on a water stewardship journey, to share lessons learned and encourage peer-to-peer exchange. This will, in turn, help strengthen their own stewardship initiatives and achievement of industry norms and benchmarks.

KEY PROCEDURAL ACTIVITY				
LEARNING FOR CONTINUAL IMPROVEMENT	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Review the current water stewardship plan to: i. identify gaps ii. modify actions based on new developments, e.g., new technology, change in regulation iii. remove water stewardship actions based on practical reasons e.g., actions achieved, action not implementable	Environmental Manager/ Dedicated water stewardship team	Annually		
b) Update the stewardship plan and strategy to have corrective measures on areas where the targets were not achieved or to include new items where targets and milestones have been achieved	Environmental Manager/ Dedicated water stewardship team	Annually		
c) Document lessons that need to be considered in the longer-term for improvement of stewardship in the next iteration	Environmental Manager/ Dedicated water stewardship team	Annually		
d) Establish platforms or make use of existing ones for sharing best practices on addressing water-related challenges and to support cross learning and knowledge exchange	Environmental Manager/ Dedicated water stewardship team	Quarterly/ Annually		

STEP 6: Communicating and disclosing

Action 6a: Communicate performance (internal and external)

Communication is a central and cross-cutting element to water stewardship. Communicating and disclosing information helps to drive transparency, accountability, and credibility in your stewardship journey. Furthermore, communication and the exchange of information helps to ensure that no one is left behind, and can garner more collective support. This also raises awareness for all key and non-key stakeholders, both within the IP and across the broader catchment.

The nature of communications and the disclosure of information needs to be adapted and be relevant to different key stakeholders. Many stakeholders will be focused upon key elements of the water stewardship plan, but possibly not all elements. Business shareholders will, for example, have specific information requirements, as will civil society groups. Therefore, it is important to ensure that this is tailored and in a format that is clear and comprehensible to the intended audience. This allows those stakeholders to make well-informed decisions and make meaningful contributions to the process.

GOOD TO KNOW

Communicating the status of processes and the impact of interventions is an important aspect of responsible stewardship. It provides the basis for continual improvement through learning and sharing, it helps build trust and stronger relationships, and allows others to better evaluate (and therefore contribute to) an organisation's water-related efforts. (AWS, 2019)

To effectively communicate site performance in implementing water stewardship actions, IPs and park tenants should have working platforms for disclosing information e.g., website, social media pages, email notifications, annual reports etc. Based on the stakeholder's role on the site's water stewardship actions, IPs and park tenants should determine which platforms will be used to communicate performance to stakeholder as part of the communication plan.

It is important to highlight that you are not obliged to communicate and disclose everything, and that the information shared needs due consideration.

KEY PROCEDURAL ACTIVITY				
COMMUNICATE PERFORMANCE	RESPONSIBILITY	REPORTING TIMEFRAME	SCALE FOR IMPLEMENTATION	
			IP	PARK TENANT
a) Based on the roles and responsibility of the stakeholder, determine i. what kind of information will be communicated? ii. which platforms will be used to communicate message? iii. what is the frequency of the communication?	Dedicated water stewardship team/ individual			
b) Develop a communication plan to support disclosure of information	Dedicated water stewardship team/ individual	Annually		
c) Establish platforms for communicating and disclosing information	Dedicated water stewardship team/ individual	Annually		
d) Regularly update electronic platforms (e.g., website, social media pages) for communicating	Dedicated water stewardship team/ individual	As per comms plan		

4. OPERATIONALISING WATER STEWARDSHIP

4.1. Options for operationalising water stewardship in IPs

There are several institutional arrangement options for structuring the organisation and oversight of stewardship related actions. The options presented below provide a clear strategy for responding to water-related risks given the inter-relationships that exist between businesses/park tenants and IP with the broader catchment.

4.1.1. Option 1: Cluster approach to water stewardship in IPs

The end goal of the cluster approach is to have IP management and businesses in the IP pooling together their resources to jointly agree on water stewardship actions to be pursued; how they can be financed, resourced and sustained.

The cluster approach provides the following benefits for IPs and park tenants:

- A steering community/central body that provides the strategic direction on water stewardship and response to water-related risks affecting the IP and catchment. This allows for park tenants to develop operational plans, for their businesses to support and align to the IPs strategic direction.
- Coherency in responding to water-related risks and implementation of water stewardship actions within and outside the factory fence, and across the IP.
- There is a centralised body that is responsible for representing the interest of all businesses/park tenants and the IP in engaging with catchment-level water stewardship initiatives as well as policy, strategy, regulatory and planning issues.
- It is more cost effective as the resourcing (staff, financial and time) for water stewardship initiatives beyond the IP fence line is split and shared amongst the park tenants.
- There is a central body that coordinates collection of data and information from businesses/park tenants for the tracking of interventions at IP level.

It is envisaged that the governance structure of the entity will be as follows:

- Central governance body would be established with its mandate and functioning captured within an agreement or charter.
- The governance body will be comprised of elected or nominated representatives from the businesses/park tenants and IP management, with each tenant nominating a representative.
- This governance body would be supported by an operational management group comprised of a project/environmental manager, a technical advisor and a project coordinator.

In response to the four phases for mainstreaming water stewardship in IPs, the operational management unit will play a key role in supporting the rollout of interventions at all levels, and in accordance with the implementation plan. Their activities will be reported to the central governing body, which will undertake the following roles:

PHASE 1: PREPARING FOR WATER STEWARDSHIP

- Be responsible for collating all the legal and regulatory compliance information for the IP and for collating a database of the requirements for all park tenants
- Assume responsibility for the gathering of catchment-related data and information to support an understanding of the local and catchment-level context
- Undertake the stakeholder mapping for the IP, including key stakeholders in the catchment, supported by businesses/park tenants
- Maintain a record of the water-related data for the IP and gather water-related data from businesses/park tenants within the IP

PHASE 2: STRUCTURING AND PLANNING FOR WATER STEWARDSHIP

- Development of the pledge/charter for the IP to commit to water stewardship. The governance body will have the responsibility to ensure that leadership and senior managers of each business/park tenant sign the water stewardship pledge
- Develop the water stewardship strategic plan for the IP which informs the operational plan of the businesses/park tenants
- Develop the stakeholder engagement plan for the IP, including the structuring of engagements within the IP and catchment-level engagements linked to broader processes

PHASE 3: REALISING WATER STEWARDSHIP

- Oversee and monitor how the IP and businesses/park tenants have implemented water stewardship. This is done through regular meetings and submitted reports
- Determine whether the implemented water stewardship actions are having an impact

PHASE 4: REVIEWING FOR CONTINUAL IMPROVEMENT

- Amend the existing strategy and research on how park tenants can improve their performance
- Anchor the communication and disclosure processes regarding the progress of the IP in implementing water stewardship initiatives

4.1.2. Option 2: Utilising existing platforms such as local industry Business Chamber

Utilising existing platforms, such as industry business chambers, to facilitate the embedding of water stewardship in IP and park tenants, is premised on the basis that most park tenants already belong to the local business chamber. These business chambers (in certain instances) have the capability to initiate activities on behalf of industry, and thus, embedding of water stewardship could form part of the tasks that the business chamber undertakes.

The embedding of water stewardship in IPs and park tenants through the business chamber provides the following advantages:

- There is an existing structure which can be expanded to include the function of embedding of water stewardship
- Most of the park tenants are already members of the business chamber
- Business chambers understand the nature of risks that businesses face, and as such, can influence IPs and park tenants to drive water stewardship actions
- There are existing structures that facilitate the pooling of resources, and these could include the pooling of resources to support water stewardship activities
- The Business Chamber typically has established linkages to businesses that are upstream and downstream of the IP, and can facilitate engagement and coordinated approaches through value chains
- The Business Chamber is typically well-positioned to engage with local government on behalf of business on issues of policy, planning and regulatory requirements

In response to the four phases for mainstreaming water stewardship in IPs, it is anticipated that the Business Chamber can provide the following roles:

PHASE 1: PREPARING FOR WATER STEWARDSHIP

- Provide support and information on how IPs and park tenants can achieve regulatory compliance
- Provide IPs and park tenants with access to information to help them understand catchment-contextual water issues, especially those linked to local government, integrated development planning and spatial development planning
- Provide support regarding stakeholder mapping, especially regarding upstream and downstream businesses

PHASE 2: STRUCTURING AND PLANNING FOR WATER STEWARDSHIP

- Facilitate the process for IP and park tenants to commit to water stewardship
- Develop the water stewardship strategic plan for the IP, which informs the operational plan of the park tenants and would link to other broader planning instruments

- Develop the stakeholder engagement plan for engagement within the catchment

PHASE 3: REALISING WATER STEWARDSHIP

- Support the implementation of water stewardship actions within the catchment, enabling upstream and downstream linkages
- Support in building capacity within business regarding structuring of interventions, exchange of knowledge on new innovations and awareness of standards and benchmarks, together with industry associations
- Monitor the implementation of the water stewardship strategic plan

PHASE 4: REVIEWING FOR CONTINUAL IMPROVEMENT

- Undertake evaluations and determine whether the implemented water stewardship actions are having an impact
- Support the IP and park tenants in amending the existing strategy and research on how park tenants can improve their performance
- Anchor the communication regarding the progress of the IP and park tenants with regards to implementing water stewardship strategic plan

4.1.3. Option 3: IP and park tenants individually pursuing water stewardship

While the option may not be the most effective or supportive of collective action, the IP and park tenants could choose to undertake water stewardship interventions individually. However, this could be pragmatic, considering that certain businesses may have shareholder requirements that are discordant with other businesses, when an IP is made up of various differing businesses that have differing relationships with water and environment and very divergent regulatory compliance requirements.

This is not to say that there is no engagement or coordination, but rather that the oversight and accountability regarding the implementation of interventions and realisation of impact would lie with each business/park tenant, and with the IP management for IP level aspects.

The individual pursuit and oversight of water stewardship by IPs and park tenants present the following benefits:

- IP and park tenants can set the pace at which they engage on water stewardship activities and enable more adaptive response and resourcing
- The IP and park tenants can focus on water stewardship actions within the IP and broader catchment in a manner that directly aligns to their strategic objectives and the interests of their shareholders

Given that the IP and park tenant opts to pursue water stewardship individually, they will need to undertake all activities covered under the four phases of water stewardship. Some of these activities could be coordinated between various business/park tenants and IP environmental managers and staff, and the information shared.

PHASE 1: PREPARING FOR WATER STEWARDSHIP

- Be responsible for adhering to and documenting legal and regulatory compliance
- Identify and gather catchment-contextual water-related information
- Undertake the stakeholder mapping within and beyond the factory fence
- Gather and document water-related data

PHASE 2: STRUCTURING AND PLANNING FOR WATER STEWARDSHIP

- Secure and document commitment from senior management for the adoption of water stewardship and pursuit of water stewardship actions
- Develop the water stewardship strategic plan and operational plan
- Develop the stakeholder engagement plan

PHASE 3: REALISING WATER STEWARDSHIP

- Implement water stewardship actions
- Monitor the implementation of water stewardship strategic and operational plan

PHASE 4: REVIEWING FOR CONTINUAL IMPROVEMENT

- Determine whether the implemented water stewardship actions are having an impact
- Amend the existing strategy and research how the implementation of water stewardship can be improved
- Anchor the communication and disclosure regarding the progress to implementing water stewardship initiatives to both external and internal stakeholders

This will require that each business/park tenant and the IP will have to arrange its own internal governance and oversight. This will most likely be linked to existing management and governance structures, with their specific reporting requirements.

4.1.4. Option 4: Linking to broader catchment-based water stewardship initiatives

In certain instances, there may be opportunity to link the water stewardship interventions at IP and park tenant level to those that are being undertaken at the catchment scale. The form of the oversight and governance may vary according to context with two main options being available.

- **Catchment Management Committee:** These are enabled by the National Water Act (Act 36 of 1998) and may be established by Catchment Management Agencies. These are perceived to be potentially structured to support a technical focus (e.g., water quality management, water use efficiency etc.) or to be geographically based to support water resource management in a designated catchment. The use of such a committee for the purpose of overseeing and governing water stewardship would combine these focal points.
- **Partnership:** The establishment of a formal stewardship partnership underpinned by a Memorandum of Understanding signed by all members.

These structures would provide the following water stewardship benefits to by IPs and park tenants:

- IPs and park tenants can effectively link their stewardship interventions to catchment interventions, both upstream and downstream of the IP
- Shared governance and engagement at the broader catchment level can realise improved coordination
- Collective action can realise improved economies of scale and cost efficiencies for interventions
- Exchange of experiences across the catchment supports innovation and assists in developing improved approaches
- Collective monitoring and evaluation can support improved understanding of impact

Such a committee or partnership would then provide for the following roles in each phase of stewardship, which support stewardship at IP and park tenant levels:

PHASE 1: PREPARING FOR WATER STEWARDSHIP

- Document legal, policy, strategy, regulatory and planning frameworks and instruments, and their links to stewardship
- Identify and gather catchment-contextual water-related information
- Undertake the stakeholder mapping across the catchment
- Gather, document and share water-related data

PHASE 2: STRUCTURING AND PLANNING FOR WATER STEWARDSHIP

- Develop catchment-level commitment from all partners/members to pursue water stewardship actions
- Develop catchment-level water stewardship strategic plan and operational plan
- Develop the stakeholder engagement plan

PHASE 3: REALISING WATER STEWARDSHIP

- Oversee the implementation of water stewardship actions at catchment level
- Support the coordination of actions at the catchment level, linked to IP and park tenant level actions
- Monitor the implementation of water stewardship strategic and operational plan, across the catchment

PHASE 4: REVIEWING FOR CONTINUAL IMPROVEMENT

- Determine whether the implemented water stewardship actions at catchment level are having an impact
- Amend the existing catchment water stewardship strategy and research how the implementation of water stewardship can be improved
- Anchor the communication and disclosure regarding the progress to implementing water stewardship initiatives to both external and internal stakeholders

The engagement of the IP at the catchment level can vary, with either the IP representing all park tenants on the catchment-level committee or partnership, or businesses/park tenants participating individually. It could be more efficient for all businesses/park tenants to endorse the stewardship agreement at the catchment level, while having an IP representative to participate on the management committee/governance structure.

Good Practice Example



CREATING AN ATTRACTIVE LOCATION FOR GLOBAL BRANDS TO SOURCE FROM VIA CERTIFICATION TO THE AWS STANDARD

China's Industrial Parks are a global hub for the production of technology and clothing. Demonstrating that these parks meet the highest international standards is considered critical if they are to win and retain contracts from global brands. Tianjin Economic-Technological Development Area (TEDA) is one of China's earliest national development zones and is pursuing sustainable development interventions, noting the pressure being placed on natural resources in the region. Although TEDA has consistently worked towards improving its environment management through initiatives including ISO14001, GRI reporting, Eco Logo on industrial solid waste management, and energy/carbon emission audits, it is currently moving towards "compliance +" by implementing Solid Waste-Energy-Water management systems.

A key component of this management system is the embedding of water stewardship through the Alliance for Water Stewardship's International Water Stewardship Standard. Certifying against the AWS Standard is viewed as being essential by the Industrial Park and its tenants for them to win and retain business from global brands concerned about the water impacts of their products. Most FTSE 500 companies now seek evidence of good water practice. AWS Standard certification offers this.

In TEDA, the mainstreaming of water stewardship in water management will mainly focus on three tasks:

1. **Adopting AWS at the TEDA Level:** to thoroughly evaluate the potential water risks and challenges based on the status quo, and recognise the opportunities that may comprehensively improve economic and environmental benefits.
2. **Launching a long-term AWS certification and recognition scheme in TEDA:** to help enterprises augment efficiency of water utilisation based on voluntary standards and market mechanisms.
3. **Developing necessary mechanisms and infrastructures to support the AWS framework,** such as relevant supporting policy, data system and communication platform.

As a major step towards enhancing water management and motivating major water users to make positive change (individually and collectively) in reducing water consumption and minimising water pollution, TEDA will summarise the best-practice management for water resource development and utilisation, and promote the standardisation of AWS at a national level.

The AWS Standards sets out a roadmap for water users to understand their own water use, catchment context and shared concerns in terms of water governance, water balance, water quality and Important Water-Related Areas, and then to engage in meaningful individual and collective action that benefits people and nature.

Source: Xu, Z & Chen A, 2017, <http://www.chinawaterrisk.org/opinions/water-stewardship-in-industrial-parks-teda-pilot/>



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6. ANNEXURES

6.1. Annexure A: Phase 1 Tools

SELF-ASSESSMENT CHECKLIST UNDERSTANDING PROCESSES AND ASSOCIATED WATER USE

The purpose of the self-assessment checklist is to support operators of IPs and park tenants in understanding some of the indicators and parameters they need to consider in order to fully understand how water is being used (Adapted from: EMAS, n.d.; WWF, 2019; UNIDO, 2017; AWS, 2019a; AWS, 2019b; DWA, 2013; The World Bank Group, 2019.)

INDICATOR	REQUIREMENTS FOR WATER-RELATED DATA	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	UNIT M ³		COST (R)		REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence
			IP	PARK TENANT		Q1	Q2	Q1	Q2			
WATER CONSUMPTION	Documented information of origin of water supply				Environmental Management Unit/Water Manager						Basic	
	There is monitoring and recording data on the total quarterly amount of freshwater withdrawn directly from water source or municipal supply in m ³ /quarter				Environmental Management Unit/Water Manager					Quarterly	Basic	
	Data collection and monitoring of the volume of water used in m ³ /quarter is conducted				Environmental Management Unit/Water Manager					Quarterly	Basic	
	Monitoring and data collection of volume of water used for production processes in m ³ /quarter				Environmental Management Unit/Water Manager					Quarterly	Advanced	

WATER CONSUMPTION	Monitoring and data collection of volume of water used for drinking and sanitation in m ³ /quarter			Environmental Management Unit/Water Manager					Quarterly	Advanced	
	There are mechanisms that monitor and record data of volume/proportion of water losses (leakage, etc)			Environmental Management Unit/Water Manager					Quarterly	Basic	
	There are mechanisms that monitor and record data on river water flow and volume, hydrology, drainage, and current water use (upstream and downstream users)			Environmental Management Unit/Water Manager					Quarterly	Advanced	
	There are mechanisms that monitor and record data on groundwater capacity and current users of the aquifers			Environmental Management Unit/Water Manager					Quarterly	Basic	
	A water balance exists for production processes			Environmental Management Unit/Water Manager					Quarterly	Basic	
	Data has been collected on the sales revenue per unit of freshwater consumption			Environmental Management Unit/Water Manager					Quarterly	Advanced	
	There is information on the water footprint of organisations in the production supply chain			Environmental Management Unit/Water Manager					Quarterly	Advanced	

INDICATOR	REQUIREMENTS FOR WATER-RELATED DATA	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	UNIT M ³		COST (R)	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence
			IP	PARK TENANT		Q1	Q2				
WATER QUALITY	There is data on the water quality received from the supplier or abstraction point				Environmental Management Unit/ Water Manager					Basic	
	There is evidence of data and information that the water quality of discharged wastewater complies to the water quality parameters specific to their industry				Environmental Management Unit/ Water Manager				Quarterly	Basic	
	Monitoring, data, and information collection of physical, chemical, and biological parameters) occurs to ensure that site's operations do not impact on water quality of downstream users?				Environmental Management Unit/ Water Manager				Quarterly	Advanced	
	Water quality conditions are monitored upstream of operations				Environmental Management Unit/ Water Manager				Quarterly	Advanced	
	Citizen science mechanisms are used to engages host community members in water quality monitoring				Environmental Management Unit/ Water Manager				Quarterly	Advanced	

WASTEWATER DISCHARGE AND TREATMENT	Documented information on wastewater discharge point exists (e.g., public sewer, directly to the river, directly to the ocean)			Environmental Management Unit/Water Manager					Quarterly	Basic	
	Data on volume of wastewater generated, treated, and discharged into the municipal sewer is monitored and recorded			Environmental Management Unit/Water Manager					Quarterly	Basic	
	Data on the volume of wastewater that has been generated, being treated, and discharged from own treatment system into freshwater sources and ocean is monitored and collected			Environmental Management Unit/Water Manager					Quarterly	Basic	
	There is a storm-water management plan detailing how storm-water entry is quantified, managed, and monitored to prevent entry to sewer systems. Plan should also include measures to prevent sewage from entering stormwater systems. Evidence of implementation required			Environmental Management Unit/Water Manager					Quarterly	Advanced	
	Data and information have been collected that reflects that treated effluent quality compliance is above 90%			Environmental Management Unit/Water Manager					Quarterly	Basic	

INDICATOR	REQUIREMENTS FOR WATER-RELATED DATA	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	UNIT M ³		COST (R)		REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence
			IP	PARK TENANT		Q1	Q2	Q1	Q2			
WASTEWATER DISCHARGE AND TREATMENT	before it is being discharged: a) 90% Microbiological Compliance (e.g., E Coli; Faecal Coliforms) b) 90% Chemical Compliance (e.g., COD, Ammonia, Nitrogen, Nitrate, Nitrite, Residual Chlorine, Orthophosphates, Fluoride, Arsenic, Cadmium, Copper, Manganese, Iron, Selenium, Zinc, Boron, etc.) c) 90% Physical Compliance (e.g., pH, Suspended Solids, Electrical Conductivity, Soap, Oil or Grease, etc)											
	Data, information, provisions and evidence in place to ensure that they are discharging treated wastewater in designated zones/ channels as per the license conditions				Environmental Management Unit/Water Manager					Quarterly	Basic	
	There is proof of compliance to a wastewater monitoring programme, including supporting data records				Environmental Management Unit/Water Manager					Quarterly	Basic	

			Environmental Management Unit/Water Manager				Quarterly	Advanced	
There is a wastewater treatment capacity register for the treatment plant which encompasses documented design capacity (hydraulic and organic) of the wastewater treatment facility and WWTW capacity planning (Medium to long term planning to ensure sufficient capacity for treatment system and to ensure effluent quality compliance)			Environmental Management Unit/Water Manager				Quarterly	Advanced	
There is a wastewater quality failure protocol and sewer spillage incident register. (Protocol to specify alert levels, response times, required actions, roles & responsibilities and communication measures/vehicles)									
There is evidence of a wastewater treatment plant asset management plan which encompasses process audit on treatment facility efficacy, site inspection of reticulation network; proof of asset register, operation and maintenance budget and comparative expenditure									

INDICATOR	REQUIREMENTS FOR WATER-RELATED DATA	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	UNIT M ³		COST (R)		REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence
			IP	PARK TENANT		Q1	Q2	Q1	Q2			
WATER USE EFFICIENCY AND WATER CONSERVATION	There is evidence of steps taken to ensure water use efficiency in production processes, drinking water and sanitation, other uses e.g., gardening processes				Environmental Management Unit/ Water Manager					Quarterly	Basic	
	Data and information exist on the volume of water saved through steps taken to increase water use efficiency				Environmental Management Unit/ Water Manager					Quarterly	Basic	
	There is evidence of steps taken to ensure water conservation and demand management (e.g., installation of water saving infrastructure) saving production processes, drinking water and sanitation, other uses e.g., gardening processes				Environmental Management Unit/ Water Manager					Quarterly	Basic	
	Data and information of volume of water saved and cost saved by utilising rainwater				Environmental Management Unit/ Water Manager					Quarterly	Advanced	

	There is a water conservation and demand management plan and has evidence of implementing action on the plan				Environmental Management Unit/Water Manager					Quarterly	Advanced	
ECOLOGICAL INFRA STRUCTURE	Reports and evidence of steps taken to ensure ecologically sensitive areas are classified				Environmental Management Unit/Water Manager					Quarterly	Advanced	
	Monitors and reports data on the environmental health/ integrity of the sensitive area (e.g., wetland)				Environmental Management Unit/Water Manager					Quarterly	Basic	
	There is an environmentally healthy ecological infrastructure (e.g., wetland) within their area of operation				Environmental Management Unit/Water Manager					Quarterly	Advanced	
	There are plans to rehabilitate at least one wetland or construct an artificial wetland within their host community				Environmental Management Unit/Water Manager					Quarterly	Advanced	
WASH CONDITIONS	Makes use of host community to maintain the integrity and health of ecological infrastructure				Environmental Management Unit/Water Manager					Quarterly	Advanced	
	Data on the proportion of water and sanitation facilities including hands washing facilities with soap to the employees				Environmental Management Unit/Water Manager					Quarterly	Advanced	

INDICATOR	REQUIREMENTS FOR WATER-RELATED DATA	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	UNIT M ³		COST (R)		REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence
			IP	PARK TENANT		Q1	Q2	Q1	Q2			
WASH CONDITIONS	There is evidence and data on the condition and age of WASH infrastructure in the community and facility				Environmental Management Unit/Water Manager					Quarterly	Advanced	
	Monitors and collects data on quality of water for drinking water in facilities				Environmental Management Unit/Water Manager					Quarterly	Basic	
	There are handwashing supplies and promotes good hygiene				Environmental Management Unit/Water Manager					Quarterly	Basic	
	Promotes good WASH practices in host community public areas e.g., schools				Environmental Management Unit/Water Manager					Quarterly	Basic	
	Has collected data on existing stewardship activities:				Environmental Management Unit/Water Manager					Quarterly	Basic	
WATER STEWARDSHIP INITIATIVES	- stakeholders involved - aim of stewardship actions - Progress on stewardship actions				Environmental Management Unit/Water Manager					Quarterly	Basic	

CATCHMENT- LEVEL COMPLIANCE	Submits plans and water-related data of the industrial park relevant authority			Environmental Management Unit/ Water Manager						
	Participates in relevant meetings/forums in the basin administration			Environmental Management Unit/ Water Manager						
	Provides inputs to the catchment's long-term plans e.g., CMS, IDP, LED, Recon strategy			Environmental Management Unit/ Water Manager						

CHECKLIST FOR ASSESSING FACILITY-BASED LEGAL AND REGULATORY COMPLIANCE

The aim of the checklist is to support park tenants and managers of IPs to identify areas in their legal and regulatory compliance that they can consider when they assess their compliance (Adapted from: WWF, 2019; UNIDO, 2017; AWS, 2019; DWA, 2013; The World Bank Group, 2019).

INDICATOR	SUB-INDICATOR	REQUIREMENTS TO ASSESS FACILITY-BASED LEGAL AND REGULATORY COMPLIANCE	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
				IP	PARK TENANT					
COMPLIANCE TO WATER USE LICENSE CONDITIONS	STORAGE/ ABSTRACTION OF WATER	A copy of water use licence for the storage or abstraction of water resources with listed the volume of water permitted to store/ abstract				Environmental management unit	Annually	Basic		
		Data, information, mechanisms, and evidence showing adherence to the water use authorisation				Environmental management unit	Quarterly	Basic		

INDICATOR	SUB-INDICATOR	REQUIREMENTS TO ASSESS FACILITY-BASED LEGAL AND REGULATORY COMPLIANCE	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
				IP	PARK TENANT					
COMPLIANCE TO WATER USE LICENSE CONDITIONS	STORAGE/ ABSTRACTION OF WATER	There is data, information, mechanisms, and evidence in place to reflect that the water extracted/stored is being removed/stored at sustainable levels (e.g., the facility does not extract/store its full allocation in one month)				Environmental management unit	Annually	Basic		
		Data, information, and evidence exist confirming that water resources are abstracted and stored on permitted zones (sites) as per water use authorisation conditions				Environmental management unit	Quarterly	Basic		
		There are plans and proof of implementation of plans to reduce volume of water resources abstracted/stored to ultimately				Environmental management unit	Annually	Advanced		

INDICATOR	SUB-INDICATOR	REQUIREMENTS TO ASSESS FACILITY-BASED LEGAL AND REGULATORY COMPLIANCE	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
				IP	PARK TENANT					
	WASTEWATER/ TREATED EFFLUENT DISCHARGE AUTHORISATION	b) 90% Chemical Compliance (e.g., COD, Ammonia, Nitrogen, Nitrate, Nitrite, Residual Chlorine, Orthophosphates, Fluoride, Arsenic, Cadmium, Copper, Manganese, Iron, Selenium, Zinc, Boron, etc.) c) 90% Physical Compliance (e.g., pH, Suspended Solids, Electrical Conductivity, Soap, Oil or Grease, etc)								
		Data and information exist, detailing that treated wastewater is discharged in designated zones/channels as per the license conditions				Environmental management unit	Quarterly	Basic		
		There is proof of compliance to a wastewater monitoring programme, which encompasses: a) proof of operational monitoring sites,				Environmental management unit	Annually	Advanced		

INDICATOR	SUB-INDICATOR	REQUIREMENTS TO ASSESS FACILITY-BASED LEGAL AND REGULATORY COMPLIANCE	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
				IP	PARK TENANT					
	WASTEWATER/TREATED EFFLUENT DISCHARGE AUTHORIZATION	There is a wastewater treatment capacity register for the treatment plant, which encompasses documented design capacity (hydraulic and organic) of the wastewater treatment facility and WWTW capacity planning (Medium to long-term planning to ensure sufficient capacity for treatment system and to ensure effluent quality compliance)				Environmental management unit	Annually	Advanced		
		A wastewater quality failure protocol and sewer spillage incident register exist. (Protocol to specify alert levels, response times, required actions, roles & responsibilities, and communication measures/vehicles)				Environmental management unit	Annually	Advanced		

ENVIRONMENTAL MANAGEMENT PLAN	 	 	Environmental managementunit	Annually	Advanced		
ENVIRONMENTAL MANAGEMENT PLAN	 	 	Environmental managementunit	Annually	Advanced	There is evidence of a wastewater treatment plant asset management plan which encompasses process audit on treatment facility efficacy, site inspection of reticulation network; proof of asset register, operation and maintenance budget and comparative expenditure	
						Extend invitation to public officials to verify compliance to water use licence conditions	
						A copy of the Environmental Management Plan exists	
						There is evidence of steps taken to minimise air quality pollution from dust, GHG missions such as carbon dioxide, methane, nitrogen, and so on	
						A climate change adaptation strategy exists and there are provisions in place to implement actions of the strategy	

INDICATOR	SUB-INDICATOR	REQUIREMENTS TO ASSESS FACILITY-BASED LEGAL AND REGULATORY COMPLIANCE	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
				IP	PARK TENANT					
ENVIRONMENTAL MANAGEMENT PLAN		There are provisions to mitigate operational environmental impacts on sensitive natural environment				Environmental management unit	Quarterly	Basic		
		Data and information exist for verifying the effectiveness of provisions to mitigate operational environmental impacts on sensitive natural environment				Environmental management unit	Quarterly	Basic		
		There are plans and proof of implementation of plans to rehabilitate/build artificial wetlands in and around operations				Environmental management unit	Annually	Advanced		
		Evidence of steps taken to ensure energy efficiency in operations exists (for instance, low-carbon technologies, energy efficiency measures, waste heat)				Environmental management unit	Quarterly	Basic		

ENVIRON- MENTAL MANAGE- MENT PLAN	Data and information to verify the effectiveness of steps taken to ensure energy efficiency in operations exists (for instance, low-carbon technologies, energy efficiency measures, waste heat)			Environmental management unit	Quarterly	Basic		
							Advanced	
							Advanced	
							Basic	
							Basic	
							Advanced	
ENVIRON- MENTAL MANAGE- MENT PLAN	One form of renewable energy sources is used in operations			Environmental management unit	Annually	Advanced		
ENVIRON- MENTAL MANAGE- MENT PLAN	A plan exists to integrate and move towards renewable energy sources in its operations			Environmental management unit	Annually	Advanced		
ENVIRON- MENTAL MANAGE- MENT PLAN	There is evidence of steps taken to mitigate all point-source pollution			Environmental management unit	Quarterly	Basic		
ENVIRON- MENTAL MANAGE- MENT PLAN	Data and information have been collected to verify effectiveness of steps taken to mitigate all point-source pollution			Environmental management unit	Quarterly	Basic		
ENVIRON- MENTAL MANAGE- MENT PLAN	There are plans to make use of ecological infrastructure at all point source discharge points			Environmental management unit	Annually	Advanced		

INDICATOR	SUB-INDICATOR	REQUIREMENTS TO ASSESS FACILITY-BASED LEGAL AND REGULATORY COMPLIANCE	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
				IP	PARK TENANT					
ENVIRONMENTAL MANAGEMENT PLAN		There are mechanisms to ensure that all steps taken to dispose of waste (physical, chemical) is in accordance with the EMP				Environmental management unit	Quarterly	Basic		
		There is a waste management strategy and proof of implementation of strategy				Environmental management unit	Annually	Advanced		
MUNICIPAL BYLAWS		Data, information, and evidence that the volume of water extracted for industrial processes is in accordance with the municipal bylaws, exist				Environmental management unit	Quarterly	Basic		
		Data, information, and evidence reflecting that treated industrial (trade) effluent (volumes & quality) discharged into municipal system complies with municipal bylaws, exist				Environmental management unit	Quarterly	Basic		

MUNICIPAL BYLAWS		Data, information, and evidence of compliance to municipal bylaws, regarding package plants, decentralised systems, spillages into the environment, storm-water connections to sewer system, exist				Environmental management unit	Quarterly	Advanced		
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SELF-ASSESSMENT ON CATCHMENT LEVEL WATER MANAGEMENT CONTEXTUAL ISSUES

The purpose of the tool is to help IPs to conduct a self-assessment on their journey to engaging with the catchment/host community within which they are operating (Adapted from: WWF, 2019; UNIDO, 2017; AWS, 2019; The World Bank Group, 2019).

INDICATOR	PARAMETERS FOR CATCHMENT-LEVEL WATER MANAGEMENT CONTEXTUAL ISSUES	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
			IP						
SOCIAL CONDITIONS	Information has been collected about the total population of the host community				Environmental management unit	Annually	Basic		
	Collected and documented information exists about the social challenges affecting the host communities in the catchment (e.g., high levels of crime, high levels of violence against women and children, drugs, gangsterism)				Environmental management unit	Annually	Basic		

INDICATOR	PARAMETERS FOR CATCHMENT- LEVEL WATER MANAGEMENT CONTEXTUAL ISSUES	CHECKLIST (Y/N)	SCALE FOR IMPLEMEN- TATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
			IP						
SOCIAL CONDITIONS	Documented information exists on the proportion of the catchment living below poverty levels for the area				Environmental management unit	Annually	Basic		
	Information has been collected and documented about the levels of basic service delivery (e.g., housing, roads, electricity, transport, WASH services, public healthcare facilities in the host community)				Environmental management unit	Annually	Basic		
	There are plans about how interventions will address/ contribute towards the improvement of at least one social issue facing the host community				Environmental management unit	Annually	Advanced		
	An analysis has been undertaken and information collected about the social impact of the SEZ or IP on at least one of the following social conditions, amongst others: • housing • education • health care • access to public transportation • safety and security • availability of basic services				Environmental management unit	Annually	Basic		

	A social improvement plan that aligns to actions identified in the IDP of the host community			Environmental management unit	Annually	Advanced		
	Youth in the local community are engaged and informed of opportunities e.g., traineeship			Environmental management unit	Ongoing	Basic		
LOCAL ECONOMIC DEVELOPMENT	Information listing the total proportion of unemployment in the catchment exists			Environmental management unit	Annually	Basic		
	Data and information exist for the main economic sectors (e.g. mining, transport) in the catchment and their contribution to the: - GDP of the local community - Employment of the local community			Environmental management unit	Annually	Basic		
	Has the SEZ/IP conducted an economic impact assessment, detailing information collected on the economic impact of the SEZ or IP in at least one of the following economic areas: - Potential number of jobs to be created because of the IP. Quantify the various stages at which job would be realised - Potential value and number of investments to be attracted and developed because of the IP, Multiplier effect - Number and value of other economic activities to be created due to the IP - General impact of the IP in the region (in terms of spin-offs from infrastructure development to the municipality and surrounding areas), the province and the country.							

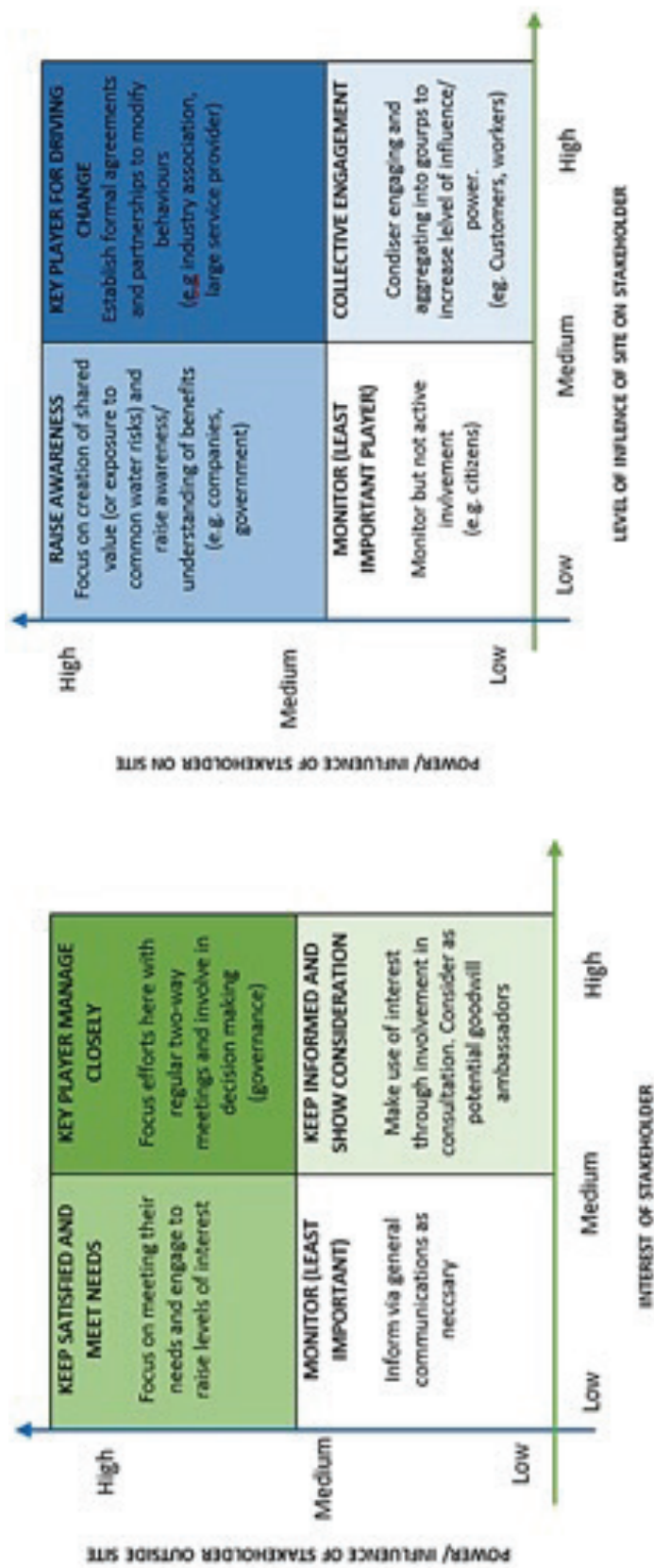
INDICATOR	PARAMETERS FOR CATCHMENT- LEVEL WATER MANAGEMENT CONTEXTUAL ISSUES	CHECKLIST (Y/N)	SCALE FOR IMPLEMEN- TATION	RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
CATCHMENT HYDROLOGY	There is information on the surface and groundwater sources in the catchment		IP 	Environmental management unit	Annually	Basic		
	Information exists about the drainage patterns of the water surface and groundwater sources in the catchment			Environmental management unit	Annually	Advanced		
	Information has been collected on the water quality challenges affecting the catchment			Environmental management unit	Annually	Basic		
QUALITY OF WATER RESOURCES	Water quality challenges information is disaggregated, according to surface and groundwater sources in the catchment			Environmental management unit	Annually	Basic		
	Information has been collected on the total yield of storage facilities' groundwater sources in the catchment/water supply to the catchment			Environmental management unit	Annually	Advanced		
	Information on the total allocation in million m³ of water use sectors per annum exists			Environmental management unit	Annually	Advanced		
QUANTITY OF WATER RESOURCES	Information on the catchment water balance has been collected			Environmental management unit	Annually	Advanced		

WATER-RELATED DISASTER RISKS	Information has been documented of the main water risks (e.g., water scarcity, water pollution, degradation of ecological infrastructure) facing the catchment		Environmental managementunit	Annually	Advanced		
	Information of activities and planned programmes into reduce/address risks exist		Environmental managementunit	Annually	Basic		
	A map of areas that will/are being affected by water risk exists		Environmental managementunit	Annually	Advanced		
	There is documentation of information on the frequency of floods and droughts in the catchment		Environmental managementunit	Annually	Advanced		
	There is a map of the flood and drought-prone areas		Environmental managementunit	Annually	Advanced		
	Future shared water challenges have been identified in terms of: • Growing population • Increasing development of water-using industry or agriculture • Increasing water demand by existing population, industry, or agriculture • Observed climate trends (e.g., reduced rainfall or higher temperatures) • Worsening quality of important water bodies • Deteriorating condition of water-related infrastructure		Environmental managementunit				

INDICATOR	PARAMETERS FOR CATCHMENT- LEVEL WATER MANAGEMENT CONTEXTUAL ISSUES	CHECKLIST (Y/N)	SCALE FOR IMPLEMEN- TATION	RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
BIODIVERSITY AND SENSITIVE ENVIRON- MENT	Information exists regarding the distribution/location of wetlands in the catchment?		IP 	Environmental management unit	Annually	Basic		
	There is a map of where the wetlands are, in relation to their operations			Environmental management unit	Annually	Basic		
	Information on the classification of the biodiversity/sensitive ecological infrastructure in the catchment has been collected			Environmental management unit	Annually	Advanced		
	Information on the integrity and health of the biodiversity or sensitive ecological systems has been collected			Environmental management unit	Annually	Advanced		
	Information on the proportion of the catchment population with access to safely managed water and sanitation facilities, as well as handwashing facilities, is documented			Environmental management unit	Annually	Basic		
	What is the condition of water and sanitation infrastructure in the catchment? • Poor • Average • Good			Environmental management unit	Annually	Advanced		
WASH CONDITIONS								

STAKEHOLDER MAPPING AND ANALYSIS TEMPLATE

Undertaking a stakeholder analysis provides guidance as to who the key stakeholders who need to be engaged, are. Some stakeholders are key and need to be involved or collaborated with, whereas others may just need to be informed or consulted with. To do this, it is important to understand the levels of influence and power (see matrices below from AWS, 2019).



The International Association of Public Participation (see <https://www.iap2.org/>) spectrum provides a useful framework for structuring engagement processes. See adapted table below, courtesy of the IAPP brochure (<http://iap2sa.org/wp-content/uploads/2020/07/IAP-006-brochure-southern-africa.pdf>)

PUBLIC PARTICIPATION GOAL	SPECTRUM OF PUBLIC PARTICIPATION				
	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
	To provide the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions.	To obtain public feedback on analysis, alternatives and/or decision.	To work directly with the public throughout the process to ensure that public issues and concerns are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.

Applying structure to the stakeholder assessment is important and can be undertaken in various ways. An example is provided below. (Adapted from: The World Bank Group, 2019; GIZ, n.d.).

STAKEHOLDER CATEGORY	INSTITUTIONS/ ORGANISATIONS	ROLE OF THE STAKEHOLDER	STAKEHOLDER CONTRIBUTION TO THE PROCESS	POWER/ INFLUENCE (high, medium, low)	INTEREST (high, medium, low)	STRATEGY FOR ENGAGING THE STAKEHOLDER (Partner, Involve Consult, Inform)	PLATFORM FOR ENGAGEMENT (Meeting, workshop, monthly emails)	CONTACT PERSON (incl. contact details)
GOVERNMENT/ POLICY MAKERS								
IMPLEMENTING AGENCY/STAFF								
INVESTORS/ FINANCIAL PARTNERS								
RESIDENT FIRMS								
BUSINESS ASSOCIATIONS/ CHAMBER OF COMMERCE								
SERVICE PROVIDERS								
EMPLOYEES								
CIVIL SOCIETY								

SIMPLIFIED WATER BALANCE TEMPLATE

(Source from WRAP, n.d. <http://www.wrap.org.uk/content/water-balance-template>)

Company:

Site:

Year:

Finished product (tes):

Number of employees:

Water balance

Water in			Unaccounted for water (m ³)		Water out	
Annual water use (m ³)			Proportion of total		Annual volume (m ³)	
Mains	0	0%	On site water usage		Product*	0
Borehole	0	0%			Trade effluent	0
Rainwater	0	0%			Sewer (domestic)	0
River/Sea	0	0%			Tankerred	0
Other	0	0%			Public surface water	0
Total	0	0%			River/Sea	0
					Evaporation*	0
					Other	0
					Total	0
					Non-return to sewer	0

*includes evaporative loss from baking

*excludes evaporative loss from baking

Total (from bills)

0

0%

Water in product*

0

0,0%

This is the volume of water added as a raw material by the site during production

*includes evaporative loss from baking etc

Water not in product

0

0,0%

6.2. Annexure B: Phase 2 Tools

LETTER OF COMMITMENT FORMAT

The purpose of this tool is to provide an overview of the format a letter of commitment can take.

(adapted from: IWaSP, n.d. <https://ceowatermandate.org/water-risk-action-framework/resource/the-letter-of-commitment/>)

The Letter of Commitment

The Letter of Commitment (LoCom) is a third-stage type of Memorandum of Understanding (MoU) which is legally binding, and establishes concrete expectations of financial and in-kind contributions from member parties in the Water Stewardship Partnership.

As the nature of each specific relationship within each partnership is unique, it is impossible to provide a generic template for such a document. However, LoComs generally include the following aspects, to be sure to cover all areas defining the obligations expected and the timing and nature of their delivery:

1. Purpose of the LoCom
 - a. Explanation of what this document does
 - b. Statement that this upholds wider partnership agreements and earlier agreements
2. Context of the Commitment Agreement
 - a. Statement of local need to reduce water risks, community context, membership in partnership
 - b. Explanation of sovereignty from other partners
3. Objectives of Partnership
 - a. Signing parties pledge to work towards these aims
 - b. Not to engage in activities counter to these aims
4. Expectations of engagement (Scope of work)
 - a. Delineation of obligations regarding field of engagement, geography
 - b. Specific work to be done
 - i. Studies
 - ii. Assessments
 - iii. Interviews
 - iv. Education program in local schools
 - v. Engaging the local community
 - vi. Building new irrigation infrastructure
 - c. How will work be done
 - i. Methods to be applied
 - ii. Time schedule for deliverables
 - iii. Funds to be allocated
 - d. Reporting and Monitoring
 - i. To whom will the partner report on progress?
 - ii. Expectations regarding participation in meetings, frequency of updates, etc.
 - iii. Person(s) directly responsible for coordinating with the party or person
5. Duration of agreement
 - a. When are all obligations terminated?
 - b. Under what situation can either party terminate or extend the agreement?
6. Statement that this agreement is legally binding.
7. Signatures, date

(adapted from IWaSP, n.d.)

SELF-ASSESSMENT ON COMMITMENT TO STEWARDSHIP AND COORDINATING FOR WATER STEWARDSHIP.

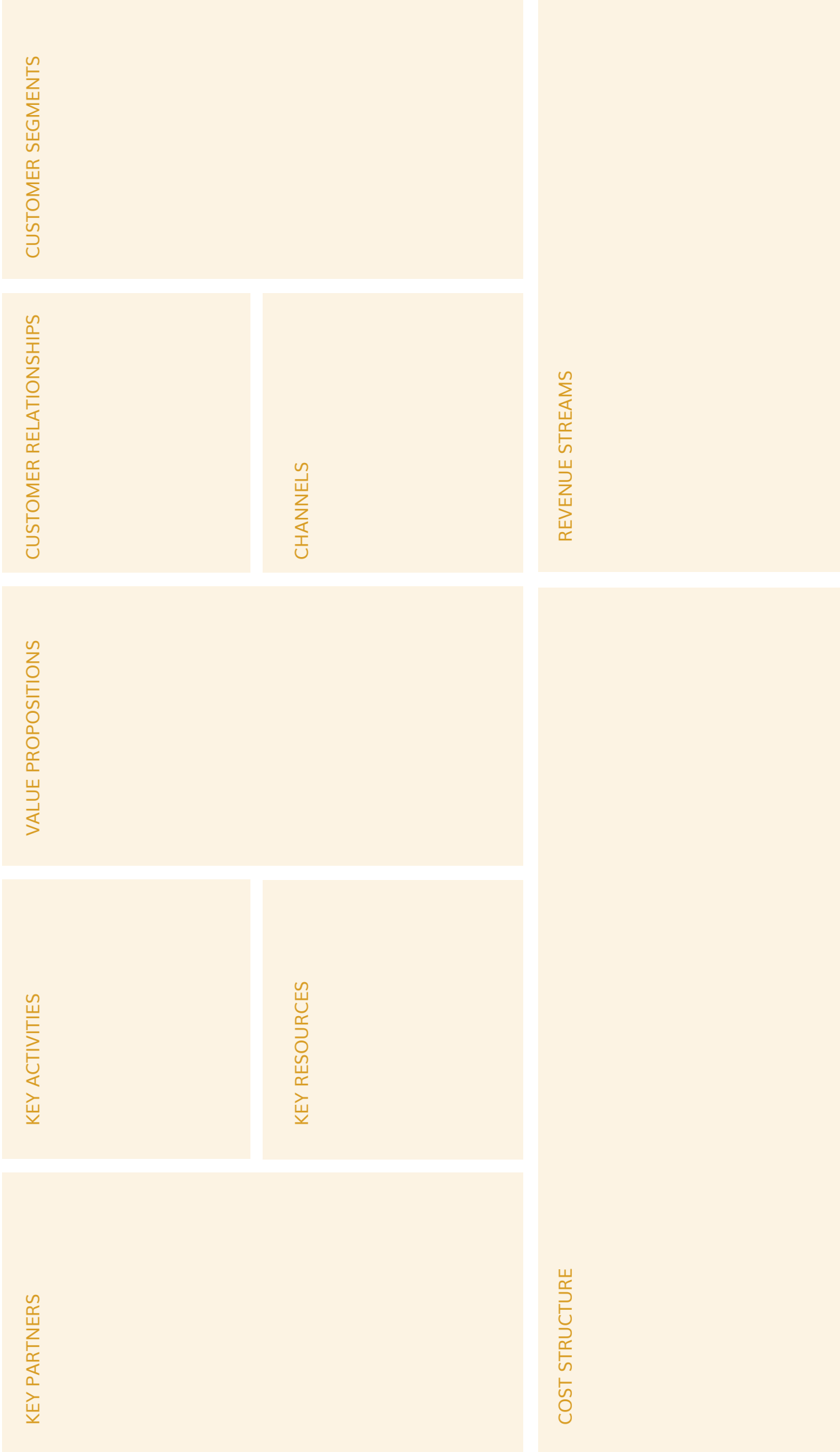
The aim of the tool is to provide a high-level overview of the parameters park tenants and managers of IPs should consider when they want to assess their level of commitment to stewardship (Sources: AWS, 2019a, AWS 2019b, CEO Water Mandate, n.d.)

INDICATOR	PARAMETERS FOR CATCHMENT-LEVEL WATER MANAGEMENT CONTEXTUAL ISSUES	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	COST (R)		REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
			IP	PARK TENANT		Q1	Q2				
STEWARDSHIP PLEDGE OR MOU	Senior management of the has signed copy of the Pledge or MOU indicating commitment to implement stewardship actions				Environmental Manager			Ongoing	Basic		
	Pledge/MOU is displayed in open spaces of the facility				Environmental Manager			Ongoing	Advanced		
	Pledge/MOU is in the annual report of the facility				Environmental Manager			Annually	Advanced		
	There are human resources to undertake stewardship initiatives				Environmental Manager			Annually	Basic		
RESOURCE MOBILISATION	Stewardship activities/ targets are in the performance plans of staff				Environmental Manager			Annually	Advanced		
	There are financial resources to undertake stewardship initiatives				Environmental Manager			Annually	Basic		

INDICATOR	PARAMETERS FOR CATCHMENT-LEVEL WATER MANAGEMENT CONTEXTUAL ISSUES	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	COST (R)		REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
			IP	PARK TENANT		Q1	Q2				
RESOURCE MOBILISATION	There is a water stewardship capacity building plan for staff to be trained on implementation of stewardship actions				External Agent						
	There is evidence (e.g., statements, receipts) that funds set aside for stewardship actions are being used for this purpose				Environmental Manager			Annually	Advanced		
	Water stewardship actions are part of the standard agenda in management executive meetings				Environmental Manager			Quarterly	Advanced		

BUSINESS MODEL CANVAS FOR OBTAINING COMMITMENT TO WATER STEWARDSHIP

The aim of the tool is to help water stewardship teams develop a business case for water stewardship practices (adapted from CEO Water Mandate, n.d.)



STAKEHOLDER ENGAGEMENT PLAN TEMPLATE

The aim of the stakeholder engagement plan template is to help park tenants and IPs map out how they will engage with their internal and external stakeholders.
(adapted from GIZ n.d.)

REASON FOR COMMUNICATIONS	COMMUNICATIONS ACTIVITY	CHANNEL	AUDIENCE	TIMING	RESPONSIBLE	COMMENTS
Regular status overview and agreement on upcoming tasks	Steering group meeting	Meeting	Steering group	Every 1st Friday of a month	N.N.	Standard agenda
(e.g.) Make sure agreed tasks are completed and followed up	Meeting minutes	Email	Core partners	Next Monday after the steering group meeting	N.N.	Standard structure
Sharing recent success stories and increasing awareness of the issues	e-Newsletter	Email	All partners, identified potential partners	January 15th, March 15th, May 15th	N.N.	Content decided in steering group meeting
Increasing engagement and celebrating success	Christmas lunch	Local restaurant	All partners	15.12.	N.N.	Unofficial, no agenda

TEMPLATE FOR A WATER STEWARDSHIP ACTION PLAN

(adapted from: CEO Water Mandate, n.d.)

DESCRIP- TION OF WATER CHALLENGE	DESCRIPTION OF STEWARDSHIP ACTION TO ADDRESS WATER ISSUE	PROGRESS AND DETAILS		PARTNER CONTRI- BUTIONS	COST/ FINANCES		RESPONSIBLE PARTY FOR STEWARDSHIP		DUE DATE	COM- PLETION DATE	REPROTING TIMEFRAME
		Y1	Y2		Y1	Y2	Y1	Y2			
Water Losses	The facility is experiencing [x] amount of water losses due to dilapidated bulk water infrastructure; as a result, company [x] is purchasing new bulk infrastructure	Contractor commis- sioned	Phase 1 completed		R3m	R10m	Mr Bottle	Ms Container	2025	2025	Annually report progress, on the Company annual report

RISK MANAGEMENT FRAMEWORK: RISKS REGISTER
(adapted from: Stakeholder map, 2008)

ID	DATE RAISED	RISK DESCRIPTION	LIKELIHOOD	IMPACT	SEVERITY	OWNER	RISK RESPONSE	DEFERRED RISK RESPONSE	PROGRESS ON ACTIONS	STATUS
[1]	[12/12/2015]	[There is a risk that... If this happens....]	[High/ Medium/ Low]	[High/ Medium/ Low]	[High/ Medium/ Low. See Severity Table]	[Person managing the risk]	[What will be done if this risk does occur? Usually actions to reduce the impact on the project]		[Action taken and date. e.g., Update 13/12/2015 mitigation actions implemented]	[Open, Waiting, Closed]

RISK MANAGEMENT FRAMEWORK: RISK MATRIX
(adapted from: Australian Centre for Health Care Governance, n.d.)

CONSEQUENCE					
LIKELIHOOD	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Extreme (5)
Rare (1)	Low	Low	Low	Low	Low
Unlikely (2)	Low	Low	Low	Medium	Medium
Possible (3)	Low	Low	Medium	Medium	Medium
Likely (4)	Low	Medium	Medium	High	High
Almost certain (5)	Low	Medium	Medium	High	Extreme

6.3. Annexure C: Phase 3 Tools

SELF-ASSESSMENT FOR THE IMPLEMENTATION STEWARDSHIP ACTIONS

The purpose of the checklist is for IP operators, as well as park tenants, to have an overview of the kind of parameters they need to consider when they are assessing their progress on water stewardship actions.

PARAMETERS FOR THE IMPLEMENTATION OF STEWARDSHIP ACTIONS	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
		IP	PARK TENANT					
There is supporting evidence of implementation of stewardship actions				Partners, Environmental Management Unit, Implementing Agent	Annually/ Quarterly	Basic		
There is a report which documents and provides evidence of progress on stewardship actions – this could be part of the annual report				Partners, Environmental Management Unit, Implementing Agent	Annually	Basic		
Water quality, water use efficiency, water loss data, water consumption, and wastewater discharge information has been submitted to the: a) SEZ Manager b) Relevant authorities at DWS, the dtic and COGTA				Environmental Manager	Annually	Basic		

WATER STEWARDSHIP IMPLEMENTATION MONITORING TEMPLATE

(adapted from: Tools4dev, 2014 <http://www.tools4dev.org/resources/how-to-write-a-monitoring-and-evaluation-framework/>)

PURPOSE OF WATER STEWARDSHIP ACTIVITY	WATER STEWARDSHIP ACTIVITY	INDICATOR	DATA COLLECTION/SOURCE	BASELINE	TARGET	OUTPUT/OUTCOME	FREQUENCY OF MONITORING	RESPONSIBLE PERSONS	REPORTING

6.4. Annexure D: Phase 4 Tools

SELF-ASSESSMENT CHECKLIST ON ASSESSING PERFORMANCE AND LEARNING FOR CONTINUAL IMPROVEMENT

The purpose of the checklist is for IP operators, as well as park tenants, to have an overview of the kind of parameters they need to consider when they undertake an assessment on stewardship plan or water stewardship actions. (adapted from, AWS, 2019a; AWS, 2019b, WWF, 2019)

INDICATOR	PARAMETERS FOR ASSESSING PERFORMANCE AND LEARNING FOR STEWARDSHIP ACTIONS	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
			IP	PARK TENANT					
ASSESS PERFORMANCE									
	An evaluation framework for assessing performance regarding impact of the stewardship actions has been developed				Environmental Manager/ Dedicated water stewardship team	Annually/ Quarterly	Advanced		
	A person/third party has been appointed to undertake performance assessment of stewardship actions				Environmental Manager/ Dedicated water stewardship team	Annually	Basic		
	A cost, benefit and output assessment framework of the stewardship action has been developed				Environmental Manager/ Dedicated water stewardship team	Annually/ Quarterly	Advanced		
	Review and evaluation reports have been collated and are available				Environmental Manager/ Dedicated water stewardship team	Annually/ Quarterly	Advanced		

INDICATOR	PARAMETERS FOR ASSESSING PERFORMANCE AND LEARNING FOR STEWARDSHIP ACTIONS	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
			IP	PARK TENANT					
REVIEW FOR IMPROVEMENT	There is a platform for engagement, within which to exchange information and build capacity on how the implementation of stewardship actions can be improved, based on reviews and evaluations				Environmental Manager/ Dedicated water stewardship team	Annually	Basic		
	Water stewardship actions that require corrective actions have been identified and will be included in the next iteration of the water stewardship plan				Environmental Manager/ Dedicated water stewardship team	Annually	Basic		
	The IP management has established a community of practice, comprising park administration and park tenants, to exchange information on best practices for addressing shared water-related challenges				Environmental Manager/ Dedicated water stewardship team	Annually	Advanced		

SELF-ASSESSMENT CHECKLIST ON COMMUNICATING PERFORMANCE

The purpose of the checklist is for IP operators and park tenants to have an overview of the kind of parameters they need to consider when they communicate and disclose water stewardship practices (adapted from AWS, 2019a; AWS, 2019b, WWF, 2019, WWF 2013)

PARAMETERS FOR COMMUNICATING PERFORMANCE OF STEWARDSHIP ACTIONS	CHECKLIST (Y/N)	SCALE FOR IMPLEMENTATION		RESPONSIBILITY	REPORTING TIMEFRAME	LEVEL (Basic, Advanced)	SCORE 3 excellent; 2 average; 1 below average; 0 no evidence	DETAILS
		IP	PARK TENANT					
Platforms for communicating information (e.g. printed media, radio, TV, social media pages, websites)					N/A	Basic		
Regular updates and improvements of information available on communication platforms					Quarterly	Basic		
Information and updates are communicated to host communities					Quarterly	Basic		
Performance on the implementation of water stewardship actions disclosed to stakeholders					Quarterly	Basic		
Performance on water stewardship actions and water management information disclosed to key stakeholders and regulatory authorities					Quarterly	Advanced		

