

A Theory and Process Evaluation of the Umhlathuze Water Stewardship Programme of
the International Water Stewardship Programme

Estelle Gautier
(GTREST001)

A dissertation submitted in partial fulfillment of the requirements for the award of the
Degree of Master of Philosophy in Programme Evaluation



School of Management Studies

Faculty of Commerce
University of Cape Town

2019

Supervisor: Associate Professor Suki Goodman

Compulsory Declaration:

This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works of other people has been attributed, cited and referenced.

Signature: Signed by candidate

Date: 14 July 2019

The copyright of this thesis vests in the author. No quotation from it or information derived from it is to be published without full acknowledgement of the source. The thesis is to be used for private study or non-commercial research purposes only.

Published by the University of Cape Town (UCT) in terms of the non-exclusive license granted to UCT by the author.

Acknowledgements

I am grateful to every human being that made it possible for me to embark on this learning journey and to complete this dissertation.

Suki Goodman, my supervisor for her guidance, care and professionalism. This study would not have been possible without her encouragement and dedication to support me.

My life partner, mom and sons; for your love and encouragement every step of the way. Your belief that I can live up to the challenge of furthering my studies made a positive difference. My dad, an example of being a lifelong student during his lifetime has been an inspiration to me throughout my student years.

The UWaSP partners and programme management team for their full support. The abundance with which you shared your insights, knowledge and information was critical to deliver an evaluation that has meaning.

The representatives of GIZ, WWF and NBI and the private sector partners – for your support in making this study possible, I thank you.

Table of contents

List of Figures	5
List of Appendices	5
List of Acronyms	6
Chapter 1 Introduction and Programme description	8
Programme Theory	14
Evaluation Questions	16
Theory evaluation question	16
Process evaluation question	16
Evaluation Approaches for the theory- and process evaluation.	16
Programme process driven evaluation approach	17
Chapter 2 Literature review and evaluation model development	19
Procedure for the literature review	19
Literature review	21
Literature Review on water governance principles- and practices	21
Literature review on international water stewardship	24
Literature review on water stewardship stages and phases	26
Literature review on natural resources adaptive co-management	28
Literature review of adaptive natural resources monitoring and evaluation models	31
Literature review on contextual influences	32
Literature review on the South-African contextual influences	32
Mediating process variables	37
Internal moderating process variables	38
External moderating process variables	43
Conclusion	43
Chapter 3 Methods	44
Evaluation Design	44
Evaluation design for the theory evaluation	44
Evaluation design for the process evaluation	45
Data sources for both theory and process evaluation	45
Documents	45
Theory evaluation	48
Measures for the theory evaluation	48
Analysis Procedures for the theory evaluation	51
Methods for the process evaluation	54

Procedures for the process evaluation	54
Client permission	55
Ethics clearance	55
Informed consent	55
Anonymity	55
Data Storage	55
Declarations	56
Quality Assurance	56
Chapter 4 Results	58
Results of theory evaluation	58
Overall results	58
Evaluation results for the seven globally recognised water stewardship good practices	58
Conclusion	61
Process evaluation results	62
Results for process evaluation question	62
Results for process evaluation sub-question	69
Results for contextual enablers to the implementation of good water stewardship practices	69
Chapter 5 Discussion	73
Theory evaluation discussion of results	73
Process evaluation discussion of results	74
Study limitations and recommendations for future studies	81
Recommendations	81
Programme theory recommendations	81
Programme process recommendations	83
Final conclusions	83
References	85
Appendices	95
Appendix A Stakeholders	95
Appendix B Interview Guide	96
Appendix C Interview data analysis template	102
Appendix D Workshop Guide	103
Appendix E Document review templates	104
Appendix F Ethics approval	107
Appendix G Permission from Client to conduct the study	108
Appendix H Informed consent	109

List of Tables

Table 1. Strategic pillars and projects linked to outcomes	14
Table 2. Water Stewardship principles and corresponding adaptive co-management criteria	30
Table 3. The water stewardship good practices	39
Table 4. Model of globally recognized good stewardship practices.....	42
Table 5 Documents reviewed during the evaluation.....	46
Table 6. Participants during meetings, interviews and workshops for the evaluation.....	47
Table 7. Overview: Results for the implementation of practices during all phases	63

List of Figures

Figure 1. UWaSP programme theory elicited and confirmed by the key stakeholders	15
Figure 2. The conceptual framework for the evaluation Chapman (2014).....	37
Figure 3. The five phases of a water stewardship programme	39
Figure 4. Theory evaluation design for the UWaSP theory evaluation	44
Figure 5. Process evaluation design for the UWaSP process evaluation.....	45
Figure 6. Illustration of the process of development of the UWaSP programme theory.....	49
Figure 7. Workshop facilitation instruments applied during the evaluation.....	50

List of Appendices

Appendix A	UWaSP Stakeholders	95
Appendix B	Interview guide	96
Appendix C	Interview data analysis template	101
Appendix D	Workshop guide	102
Appendix E	Document review guide	103
Appendix F	Ethics Approval	106
Appendix G	Client permission letter	107
Appendix H	Informed consent letter	108

List of Acronyms

AWS	Alliance for Water Stewardship
BMZ	German Federal Ministry for Economic Cooperation and Development
CBA	Critical Biodiversity areas
CMA	Catchment Management Agency
CEO	Chief Executive Officer
DfID	UK Department for International Development of the UK Government
DWS	Department of Water AND Sanitation
GIZ	Gesellschaft für Internationale Zusammenarbeit
IUCN	International Union for Conservation of Nature
IWaSP	International Water Stewardship Programme
IWRM	Integrated Water Resources Management
NBI	National Business Initiative
NGO's	Non-Governmental Organisations
NRM	Natural Resources Management
OECD	Organisation for Economic Cooperation and Development
RBM	Richards' Bay Mining
SWPN	Strategic Water Partners Network
UK	United Kingdom
UWaSP	Umhlathuze Water Stewardship Programme
WRAF	Water Risk Action Framework of IWaSP
WRAP	Water Risk Action Plan of IWaSP
WSI	Water Stewardship Initiatives
WWF	World Wide Fund for Nature

Abstract

Water is a scarce resource without which human survival is at risk and major economies would collapse if not carefully managed. Water stewardship involves collaboration between role players from the public- and private sector as well as civil society to effectively mitigate some of the water related risks and improve water security.

Good practice examples of water stewardship have been captured in only a limited number of international studies through the work of a few organisations driving adoption of stewardship practices. Most of these are internal documents and remain unpublished. There are a few local, unpublished studies that are specific to water stewardship as an approach to water resources management in South-Africa. A comprehensive literature review on water resource management institutions in South published between 1997 and 2011, shows that research is predominantly focused on catchment management agencies (CMA) than on other entities such as international water management bodies, water user associations or water irrigation boards (Meissner, 2013)

The uMhlathuze Water Stewardship Programme (UWaSP) is a South African programme selected to evaluate if the programme has been established against globally recognised good practices of water stewardship and to what extent it has been implemented accordingly. The programme is part of an international water stewardship programme which provided an ideal opportunity to evaluate a local programme against a global good practice model. The international literature on water stewardship as well as literature on adaptive co-management approaches to water resources management enabled the development of a consolidated global good practice evaluation model of water stewardship. The research included consideration of contextual influences that may have enabled or hindered the implementation of the establishment of the water stewardship programme. The South African literature shows that a specific type of integrated water resources management (IWRM) , catchment management associations (CMA') share certain adaptive co-management elements with a water stewardship approach to water management. These include three concepts extracted from the literature namely collaborative stakeholder engagement, adaptation through learning (experimentation) as well as a bioregional approach to water resources management which means implementation of management structures at the river basin level (Meisner, 2016). The local contextual factors influencing implementation of the UWaSP and commonalities with CMA's are considered during the discussion, against the background of the findings of local studies.

Chapter 1 Introduction and Programme description

This dissertation reports on an evaluation to determine the extent to which the UMhlatuze Water Stewardship Programme (UWaSP) has been established according to accepted global good practices in water stewardship and to identify contextual factors that may have supported or inhibited the establishment progress. Given the early stage of the programme, the current study is designed as a formative evaluation to develop insights regarding the setting up and functioning of UWaSP according to good practices of water stewardship programmes globally (Rossi et al., 2004; Scriven, 1991).

This chapter provides an overview of the UWaSP; an adaptive, co-management natural resources programme that has been established through a water stewardship approach. The overview is followed by the evaluation questions, evaluation approach and a depiction of the UWaSP programme theory.

Water is the ultimate shared resource that can be managed more sustainably if the water users in a water catchment area work together. The drought that has been prevalent in many parts of South Africa since 2015, required an accelerated response from the national Department of Water and Sanitation (DWS) and partially the private sector to curb the impact on human life and the economy. The uMhlatuze water catchment ¹of Richards' Bay Kwa-Zulu Natal in South Africa, is particularly of concern because of high demands for water from growing human settlements and industrial centres exacerbated by the limited reliable yield from the water catchment area. The available volume of water has decreased considerably since 2015 due to drought conditions and parts of the area have been declared a disaster area. These threats have required a different approach to water management, following a status quo report and the recommended solution to implement a water stewardship programme to stimulate collaborative solutions.

Water challenges are complex, particularly within the context of sustainable development and given the fact that it is a shared resource amongst different users. A water secure future cannot be achieved by a single government, sector of society or private enterprise on its own. Coordinated collective action is therefore required to find sustainable ways to mitigate long-term risks (Reig,2015) Water Stewardship is such an approach that involves multiple

¹ A water catchment is an area of land where all water flows to a single stream, river, lake or even ocean. ((Huitema & Meijerink, 2017)

stakeholders, based on the principle of collective accountability for the sustainable management of those resources (Newborne & Dalton, 2016). A social organisation and systems of governance are required to use the possibilities of water and reduce the risks associated with human settlement of water along rivers and coastal areas (Huitema & Meijerink, 2017). Water stewardship engages those who do not hold a government mandate to manage water resources or water infrastructure and enables them to contribute positively to water security. The formation of UMhlatuze Water Stewardship Programme (UWaSP) represents such a system intended to bring together multiple stakeholders to address the water issues in the area

Programme Description

The UWaSP is one of the partnerships programmes of the International Water Stewardship Programme (IWaSP). IWaSP is an innovative donor funded programme that aims to improve water security for communities and businesses in watersheds around the world by supporting good corporate water stewardship and multi-stakeholder collective action. It is funded and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and the UK Department for International Development (DFID). A representative of DFID states: “Partnerships often entail a delicate balance of power between government institutions, the private sector, civil society and citizens.”

UWaSP is a multi-stakeholder partnership initiative that was initiated in 2015 and formalised during 2016 as a critical response to water scarcity and its impacts on the North Eastern coastline of KwaZulu-Natal. UWASP brings together the influential role players within the public sector, private sector and civil society in the Mhlathuze region as both custodians and water users into a partnership. This partnership further comprises of donor- and development agencies such as the German and British International Cooperation (GIZ and DFID), World-Wide Fund (WWF), National Business Initiative (NBI) and Strategic Water Partners Network (SWPN).

The UWaSP formation was based on the principles and values of “water stewardship” as a collaborative, inclusive approach to local water challenges and the development of innovative solutions to sustainable water conservation- and management (collaborative water stewardship programme (Fabricius and Currie, 2015) Whilst integrated water management is ultimately a

government mandate, water use and water preservation is in the hands of government as well as industry members and communities. Water stewardship programmes should therefore aim at being catalytic and aligned with the philosophy of collective action to advocate for investment in long-term sustainability (Newborne & Dalton, 2016).

Water stewardship is defined by Alliance for Water Stewardship (AWS, 2014, p.6) as “the use of water that is socially equitable, environmentally sustainable and economically beneficial, achieved through a stakeholder-inclusive process that involves site and catchment-based actions” (Dalton & Newborne, p.30, 2016). Stewardship as an adaptive co-management approach to water as a natural resource, focuses beyond how water challenges at a factory or company premise are addressed, and includes an understanding of the challenges within a broader water catchment area and how it is being addressed through the collective approaches by water users- and other stakeholders within a particular catchment (Dalton & Newborne, 2016). Cundill & Fabricius (2010) state that adaptive co-management is a governance-based approach aimed at dealing with complexity and uncertainty in natural resource management (Olsson, Folke & Berkes, 2004 a; Ruitenbeek and Cartier, 2001). It relies on collaboration among a diverse set of actors, and on a form of social coordination in which actions are coordinated voluntarily by individuals and organisations in a self-organizing and self-enforcing manner (Olsson, Folke & Hahn, 2004 b, 2006; Ruitenbeek & Cartier, 2001).

The environmental context of the UWaSP

The Mhlathuze River Catchment is on the north-east coast of KwaZulu-Natal, approximately 180kms north of Durban. The catchment covers 4209 km² starting in the Babanango Hills in the west, descending over steep, rugged terrain and flowing south east through grassland and agricultural land until it reaches the Goedertrouw Dam in the upper-mid catchment. The central area has extensive irrigated agriculture, which extends to the boundaries of the highly developed urban area of the City of Mhlathuze (Richards Bay); and the wide alluvial plains of the Zululand Coastal Plains. The catchment is bounded by the Mfolozi catchment in the north and the Lower Thukela, uMlalazi and Amatikhulu in the south. Almost the entire catchment falls within the King Cetshwayo District Municipality (formerly the uThungulu District Municipality), with all the local municipal areas deriving benefit from the Mhlathuze River and its tributaries. Agriculture is the largest water user, followed closely by the urban and industrial usage of the City of Mhlathuze. The 2014 provincial Conservation Plan identifies

critical biodiversity areas (CBA) within the catchment²

The catchment is generally high-risk in terms of water-related issues, making water usage licenses compulsory. This implies that water users could be accurately documented and licensed to curtail the over abstraction of the resources and protect the environmental reserve. Water scarcity is the top risk, and many other risks are linked to this scarcity. However, water quality is also a priority concern in the lower catchment, within the boundaries of the City of Mhlathuze, and better regulation and monitoring is needed in this region. Industries such as the Richards' Bay Mining (RBM), Foskor, Bayside Aluminum, Hillside, Tronox, Tongaat – Hulett and Mondi Richards Bay underpins the local economy and requires a very high assurance of water supply.

Water scarcity is halting development and could result in large industries and mining operations moving out of the area as stated in the status quo report. In addition, agriculture is a significant employer of the poorer communities in the catchment, and loss of financial viability due to water issues would result in massive job loss. There are large areas of alien vegetation in the Mhlathuze catchment, including significant alien vegetation within the headwaters of the Mhlathuze River; adding additional pressure on the water system or water supply.

Stakeholders of the UWaSP

The key role-players within the Mhlathuze River Catchment include the public sector consisting of national- and provincial departments, the district municipality, local municipalities; civil society organisations- and associations, the private sector and associations and universities. A detailed list of stakeholders is contained in Appendix A.

The Memorandum of Understanding (MoU) that was submitted to the City of Umhlathuze Municipality for final approval, outlines the mandate of the UWaSP and the different roles of the multiple parties to implement water management interventions in the City of uMhlathuze. It specifically states as purpose being to “outline the mutual interest of the parties to formally collaborate on water projects and to provide a formal mechanism for the organisations to do so. The envisioned outcome is for the parties to jointly implement projects which will support

² All data contained in the programme description was provided by the programme manager /the status quo report

the City of uMhlathuze in meeting its mandate as water service authority and ensuring sustainable water supply to meet future needs. There are four focal areas noted in the draft MoU that align with the mandate of the City of uMhlathuze: Integrated Water Resource Management, Water Demand Management, Customer Relations Management and Climate Change.

The local Municipality is a key role player in UWaSP and its water mandate is briefly discussed here. Local Government has water use functions of taking water from a water resource (abstraction), discharging wastewater into a water resource and changing the physical structure of rivers and streams. Local Government therefore plays a critical management role with regards to water quality and pollution, storm water management, flood- and drought defense. Secondly, it has a water use authority by which water is being managed through provision of licenses for water users. Thirdly, the local municipality is responsible for integration on planning. It needs to align its integrated Development Plans and Water Services Development Plans with the Catchment Management Strategy, which is a framework for the management of water resources by the Catchment Management Agency (CMA) within its water management area (South African Local Government Association, 2018).

Funding models of the UWaSP

Co-funding has been granted to support UWaSP via the National Business Initiative (NBI), which is acting in the role of financial administrator for the partnership. The co-funding was intended to ensure the following first stage objectives are met such as stakeholder engagement and awareness raising events, coordination of collective action, first stage planning and identification of short-term measures to improve water security. A variety of financing sources and funding models are required to bring the projects to fruition, in support of long-term water availability in the catchment, which requires detailed planning and budgeting.

Governance and resourcing of UWaSP

Management committee meetings are held quarterly. Agendas, minutes and attendance registers of all meetings have been handed to the researcher and is available for viewing as part of the examination process. Quarterly Executive Management committee meeting supports the implementation of activities identified during the UWaSP partners' platform meetings and oversees partnership coordination and management. The committee also provides updates at

the UWaSP Partners Platform meetings which are held bi-annually. These latter meetings are an open, consultative, advisory platform to evaluate and steer the overall partnership and advise the management committee. Agendas, minutes and attendance registers of all Platform meetings are available for the evaluation.

Strategic pillars and interventions of UWaSP

During the initiation of the UWaSP, management was informed by the Status Quo report and based on the research conducted, they formulated five “strategic pillars” to address the needs and risks that were identified. During the years, these pillars remain relevant and a constant compass that has guided the identification of opportunities that translates into the identification of initiatives and tangible projects. These pillars are formulated as short term outcomes by the researcher and included in the programme theory and linked to outcome indicators as shown in Table 1, p.14. During 2017, project plans were developed in alignment with the strategic pillars by NBI, WWF and IWaSP and scoping of the water challenges that needed to be addressed by UWaSP through projects and project activities, were undertaken as shown in Table 1, p.14. The projects were then collaboratively refined at the partnership forum- and management committee meetings. The existing plan of operations referred to as the Water Risk Action Plan (WRAP) was revised by the researcher, together with the programme managers to align the projects, activities, timelines and indicators with to the programme theory. The plan of operations was modified to monitor the progress of the projects. The initial projects identified for implementation are described in further detail in in the plan of operations and project presentations. Job creation and gender equality is not included in Table 1,p.14 as it is a cross-cutting outcome that is intended to be considered during the planning of projects. Project implementation was initially envisaged to start during the last quarter of 2018. The projects implementation planning includes various project management activities along the phases of the water stewardship programme establishment contained in the plan of operations and project life cycle monitoring document.

Table 1. Strategic pillars and projects linked to outcomes

Strategic Pillars	Projects or initiatives	Short term outcome
Ecological infrastructure conserved	Alien plant clearance	Indicator: Water Quality preserved/improved
Enhanced and rehabilitated wetlands	Waste removal, mapping and development of rehabilitation plans.	Indicator: Number of water projects implemented
Water Balance conserved	Management of water supply, demand and usage	Indicator: Water balance (quantity) preserved or improved
Industry reduction in water pollution and water usage (waste)	More effective water management of dams and lakes and a	Indicator: Mechanisms to reduce water wastage materialized in # number of projects/initiatives
Effective management of water supply, demand and usage. (reduction in water loss)	Non-revenue water project to reduce water losses	
Cross cutting themes	Gender Youth development Job or employment creation	% women included Employment opportunities for youth

Programme Theory

A programme theory is essentially a shared understanding amongst the key stakeholders about the underlying assumptions and expectations about how a programme should work in order to achieve its goals and objectives (Rossi, Lipsey & Freeman, 2004). The underlying programme theory for UWaSP was not explicit in any of the programme documentation. It was elicited by the researcher following processes recommended by Rossi et al., 2007. The procedure of elicitation and confirmation of programme theory is described in Chapter 3; Methods. Figure 1, p. 15 contains a depiction of the elicited programme theory which was modified and finally confirmed by the UWaSP management team. The key stakeholders confirmed that the programme theory is aligned to their expectations and initial assumptions to achieve its intended outcomes (Rossi et al., 2004)

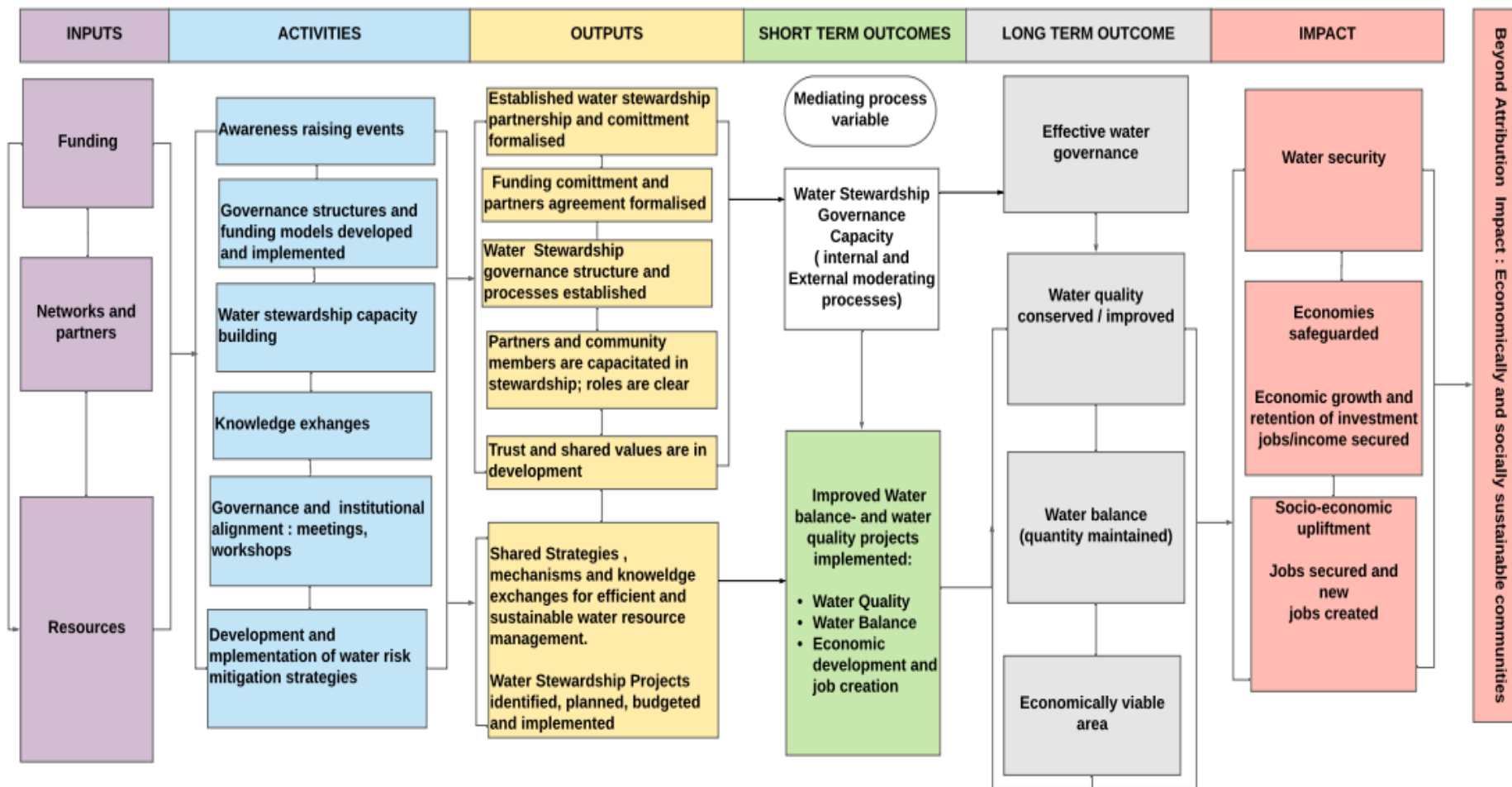


Figure 1. UWaSP programme theory elicited and confirmed by the key stakeholders

The UWaSP was formed in response to a need for multi-sectoral collaboration to address the challenge of water scarcity in the uMhlathuze area.

The purpose of the research is to determine if UWaSP has been established according to globally recognized good practices³ and if it is being implemented accordingly. “Establishment” is defined for the purpose of the evaluation as: The setting up of a water stewardship programme according to the good practice criteria that which forms part of as the evaluation model.” Although the establishment is implemented over the entire life span of the programme, the setting up for example of structures. procedures, communication channels, planning- and monitoring processes is part of the establishment process.

The following evaluation questions have been formulated to this effect and a question has been included to determine the role of contextual factors in the implementation of the programme.

Evaluation Questions

This evaluation sought to address the following evaluation questions:

Theory evaluation question

To what extent has the UWaSP programme been established according to globally recognised good practices for water stewardship?

Process evaluation question

To what extent has the UWaSP programme been implemented according to the globally recognised good practices ?

Process evaluation sub questions

What are the influences of contextual factors in the implementation of a local water stewardship initiative? What are the enablers and inhibitors to implementation?

Evaluation Approaches for the theory- and process evaluation.

This study comprises of two evaluation approaches: A programme theory- and programme process driven approach. These approaches are integrated through the adapted conceptual framework (Chapman, 2014).

³ In the absence of globally recognized best practice of water stewardship, the term “good practices” are used when referring to the evaluation criteria.

Programme theory driven evaluation approach

A programme theory-driven evaluation is, according to Donaldson and Lipsey (2006), the “construction of models of how programs work, using the models to guide question formulation and data gathering. The causal theory or change model (Chen, 1990) examines the causal processes and the intervening contextual variables that produce change (Van Belle, Marchal, Dubourg & Kegels.,2010). This type of evaluation furthermore draws from the theory of change approach (Aspen Institute, USA as cited in Van Belle et al.,2010) which emphasises the links between the intervention, context and outcome through development and testing of logic models. The development of a programme theory of an intervention serves to demonstrate explicitly and logically the change mechanism of an intervention. The Realist Evaluation theory evaluation approach developed by Pawson & Tilley (1997) partially informed the theory evaluation when contextual influences were considered during the theory evaluation sub-question. The Realist Evaluation theory developed by Pawson & Tilley (1997) emphasises that evaluations need to uncover what works in which conditions, why and for whom, rather than only focusing on if it works or does not work. The Realist evaluation approach aims at identifying the underlying generative mechanisms of the intervention and the influence of context upon the outcomes (Orginc & Batalden, 2009).

The researcher followed the proposed three step model of Donaldson (2003) as cited in Donaldson, 2006, p. 18) that simplifies the understanding of the basic activities of what he describes as “Program Theory- driven Evaluation Science”:

- Developing programme theory
- Formulating and prioritizing evaluation questions
- Answering evaluation questions.

Programme process driven evaluation approach

The process theory is the assumptions and expectations on which the programme’s organisational and service delivery system is based. The process evaluation is informed by both the change model and the action model (Chen 2005). Chen refers to the normative theory as the action model which contains the rationale and justification of the programme. Whereas programme theory uncovers the implicit assumptions underlying the choice and design of the

programme interventions (Van Belle et al., 2010) as basis for understanding what is being implemented, the action evaluation model, states Van Belle et al. (2010) describes how the intervention has been implemented, if and why it has achieved its objectives or not.

Conclusion

The programme description provided the context within which the UWaSP programme is operating and has informed the formulation of the theory-and process evaluation questions and evaluation approach. The review of literature in Chapter 2 includes water governance, globally recognised good water stewardship practices and management systems of natural resources. This review will inform the development of the good water stewardship practices model that serves as criteria against which the UWaSP evaluation will be conducted

Chapter 2 Literature review and evaluation model development

This chapter contains the literature review that was conducted in order to develop a model of good practices that contains the evaluation criteria against which both the theory- and process evaluation questions will be answered. The evaluation questions seek to determine both the extent to which the UWaSP programme has been established (theory) and implemented (process) according to globally recognised good practice for water stewardship. The model is the end result of a thorough and exhaustive review of international literature on water stewardship, water governance and natural resources management approaches. Key concepts, methodological approaches and principles were considered and integrated into a consolidated evaluation model. The model contains criteria of good water stewardship in the form of seven good practices which are required to a larger or lesser extent during the five phases of the establishment of a water stewardship initiative. The UWaSP programme is one of seven water stewardship programmes that have been implemented in South African and one of a nine-country worldwide programme of the International Water Stewardship Programme (IWaSP)⁴. The larger global context within which the UWaSP programme is established, called for a decision to include international criteria or good practices as evaluation criteria. The evaluation model could potentially be applied in similar water stewardship evaluations locally or internationally.

In order to consider local influencing factors, a process evaluation question was included. The process evaluation sub-question that focus on the contextual factors, required guiding questions and a structure to elicit and analyse data. The CEO water mandate (2015) guidelines were utilised to develop the part of the interview guide that provided this structure and template (Appendix B). In addition, and to supplement the guidelines, literature from the adaptive co-management approach in a South African Context (Meissner et al., 2016) was included to review the contextual findings and inform recommendations.

Procedure for the literature review

A literature review of international water stewardship and water governance was conducted to review approaches, studies and frameworks to water stewardship and - practices for

⁴ IWaSP implementation countries : Ethiopia, Granada, Kenya, Pakistan, Saint Lucia, South Africa, Tanzania, Uganda and Zambia

consideration and inclusion into an inclusive theory evaluation model. A further literature review on natural resources management approaches was conducted to determine natural resources management approaches that may be relevant to water stewardship and which could enrich the model. The researcher first searched for South African literature for water stewardship and integrated water management.

The literature searches for the above purposes followed the same procedure: locating and retrieving articles, journals or books; screening the literature to determine relevance to the research questions and reviewing the selected literature to extract definitions, concepts and good practices. Key words were inserted into the following electronic databases: Google Scholar, JSTOR, PRIMO and Science direct. The key words and - phrases included were “water stewardship”, “water governance”, water co-management “water management initiatives”, “international water stewardship”, “water management” and “partnership”, “sustainable water management”, “participatory water management”, “natural resources management”, “co-management”, “adaptive co-management” “and” “systems”.

The literature search was conducted in stages during which articles that were considered relevant were scanned and if appropriate to the evaluation questions, read in great detail to develop concepts and ideas for further searches. Searches that rendered a very wide, mostly irrelevant range of journal articles were further narrowed down using more specific terms. Only articles that directly addressed the subjects of water stewardship, water resource management – or natural resources co-management and adaptive co-management were selected instead of specific case examples to extract generic principles and practices.

The review revealed that the existence of journal articles and other published literature on water stewardship or evaluations is limited. The researcher re-directed her search by inserting “water stewardship” as key word into Google search engine, which pointed to the websites of the Alliance for Water Stewardship, World Wide Fund, International Water Stewardship, the European Water Partnership, the CEO Water Mandate and the Organisation for Economic Cooperation for Development (OECD) and International Water Stewardship. These sites were further utilised to search for literature on water stewardship and relevant literature was retained that was produced through the work of civil society organisations, development agencies, business initiatives, quality standards bodies. The unpublished and internally published study reports and website descriptions of IWaSP through DFID, CEO Water Mandate, Alliance for Water Stewardship (AWS) the WWF and the Organisation for

Economic Cooperation and Development (OECD) were studied in detail. During a final review, an additional search was conducted using the Words Water Users' Association in a search to find local case studies in adaptive co-management.

Literature review

Literature Review on water governance principles- and practices

In the introduction of the paper on The Organisation for Economic Cooperation and Development (OECD, 2015. p.1) it is stated that a water crisis is often considered a “governance crisis”. The development of good practices for a water stewardship initiative therefore needs to give consideration to the larger context of water governance.

The OECD defines water governance as the “range of political, institutional and administrative rules, practices and processes (formal and informal) through which decisions are taken and implemented, stakeholders can articulate their interests and have their concerns considered, and decision makers are held accountable for water management” (OECD, 2015, as cited in OECD, 2018, p.4).

Practices on Water Governance was adopted by the OECD Regional Development Policy Committee (OECD, 2015, p. 8) and apply to the overarching water policy cycle. It states that these practices should be implemented in a systematic, inclusive manner and does not distinguish between water management, water uses nor water ownership. It furthermore states that policy responses will only be viable if they are coherent, if stakeholders are properly engaged, if well-designed regulatory frameworks are in place, if there is adequate and accessible information, and if there is sufficient capacity, integrity and transparency” (OECD, 2015, p.1) The study conclusions (OECD, 2015, p.168) place emphasis on the importance of “stakeholder engagement as opportunities to share objectives, experiences and responsibilities and creating space to express concerns and interests”.

Part of the review required making decisions about which governance practices would be relevant to water stewardship in order to establish clearly the mandate and boundaries of a water stewardship initiative. This is necessary so that the initiative does not impose on the integrated water resources management roles and responsibilities of government. The

International Union for Conservation of Nature (IUCN) paper (Dalton & Newborne, 2016) has included a chapter on this distinction whereby the differences and similarities are discussed. Included below is a summary of aspects of this chapter which differentiate between these two approaches:

Morgan and Orr (2015) states that water stewardship is differentiated from integrated water resources management in that the private sector contributes towards water resource management and take action on behalf of other water users. They further state that “integrated water resource management is considered as actions by an authority mandated by the state to manage water resources on behalf of all water users” (Morgan and Orr, 2015 as cited in Newborne & Dalton, 2016, p.43).

Water stewardship can be considered as actions by water users themselves to contribute to the management of the shared resource towards public good outcomes (Morgan and Orr, 2015 as cited in Newborne & Dalton, 2016, p.43). and is therefore about non-traditional, private actors increasingly involving themselves in the management of the common pool-public good regarding water (Morgan and Orr, 2015 as cited in Newborne & Dalton, 2016, p.43). The focus of Government’s integrated water resources management is more on policies, laws and plans, institutional frameworks, use of management and technical instruments and investment in water infrastructure (Smith and Jønch Clausen 2015 as cited in Newborne & Dalton, 2016, p.42) which makes it more institution- and procedure heavy with a long-term time frame. Reform could take up to decades to happen (Hassing, Ipsen, Clausen, Larsen & Lindgaard-Jørgensen , 2009)

Water stewardship initiatives on the other hand, is “a stakeholder inclusive process that involves site and catchment-based actions and starts at an individual private sector site where the plant or premises of the actor is and then goes beyond to the catchment” (AWS, 2014, p.6). Integrated water resources management and stewardship should be connected, one international water policy specialist commented that “water stewardship can carry out the function of supporting and waking-up the economic pillar of Integrated Water Resources Management (IWRM) by directing the attention of water catchment organisations and other public agencies” (Newborne & Dalton, 2015, p.45).

The OECD developed a set of overarching principles on water governance as a standard for

governments to follow when designing water policy and projects. These principles, although applicable to government, can support identification of areas needing improvement and common ground that policy makers and practitioners can share (OECD, 2015). It therefore provides valuable and relevant guidance for stewardship partnerships- and platforms. The OECD has formulated 12 principles on water governance, of which six are more related to integrated water management as it addresses policymaking, policy implementation and regulatory frameworks. The remaining principles referring to capacity, competencies, governance practices, stakeholder engagement and monitoring have been integrated into the CEO Water Mandate framework (2015). A water stewardship programme can not only benefit from application of these principles, but it should be possible to contribute towards the government's governance responsibilities. Just one of many examples is support to government that refers to promotion of innovative water governance practices across stakeholders (OECD,2015); principle no. 8. A sub-action of this principle speaks of promoting of social learning to facilitate dialogue and consensus-building through networking platforms, to promote innovative ways to cooperate and pool resources and capacity as well as building synergies across sectors (OECD, 2015, p.11).

Good governance as a principle of good water stewardship is furthermore emphasised by the WWF's final step within a five step approach to establishing water stewardship, namely "Influencing governance", by which corporates take on an active support role in various forms such as advocacy, financial support or institutional strengthening (Newborne & Dalton, 2015, p. 126). The AWS also includes good water governance as one of its outcome indicators, together with sustainable water balance, good water quality status and a healthy status of important water related areas (AWS, 2014, p.9).

Model development considerations

When considering the above literature on governance principles a model of a good water stewardship initiative/programme; should ideally include:

- Practices that ensure alignment of the programme to the integrated water resources management mandate of government.
- A Focus on collective action through stakeholders from both public and private sector engagement regarding areas of shared interest and concerns.
- The general governance principles that apply to government's management of water resources; defined with a specific focus and scope.

- Good water governance principles as an outcome indicator.

The literature review of existing international water stewardship approaches are presented next and in addition to extracting practices for inclusion in the model of globally recognised good water stewardship practice, it will be established if the governance principles discussed above are also represented in these approaches.

Literature review on international water stewardship

The IUCN (Newborne & Dalton,2016) developed a comprehensive discussion paper to guide water stewards to understand the essential elements of effective water management roles in corporate water management, and the potential actions they could take. The study paper contains comprehensive literature on the different approaches followed by organisations such as the AWS, WWF, the CEO Water Mandate and the IWaSP which provided the researcher with valuable background and overview information for the evaluation. The paper reviewed the meaning of water stewardship, using international guides or standards as well as companies' interpretations of the concept. The researchers reported on data gathered from participants in private organisations that there was an increased awareness of the water risks beyond their companies' own premises. They also established that employees were more interested in knowledge on catchment water management issues and to engage in collective action.

The WWF emphasises the shift from stewardship being a corporate social responsibility project to becoming a good water steward, which necessitates shifting from ad hoc and philanthropic initiatives to recognizing water as a strategic and core business issue that is material to profits and long-term opportunities for growth (WWF, 2013, as cited in Newborne and Dalton, 2016. p. 33). A distinguishing feature of WWF's approach to water stewardship is its emphasis on the 'learning, acting, doing and improving' approach that it proposes to companies. WWF states that 'Water stewardship for Business' is 'a progression of increased improvement of water use and a reduction in the water-related impacts of internal and value chain operations' WWF is, it says, 'helping to redefine the role of the private sector' (WWF, 2013, p.1).

In the AWS standards, it is emphasised that water stewardship is intended to support and contribute towards catchment management, not to replace such efforts (AWS, 2014, p.7) In

addition to defining water stewardship, the organisation also articulates the process of stewardship and collective action: “Good stewards understand their own water use and catchment context” (AWS, 2014. P.7). The AWS standard refers to engagement in ‘individual and collective actions that benefit people and nature, both at the site level and beyond the boundaries of the site’. The combination of ‘individual and collective’ action is reflected in the ‘shared’ nature of water challenges which the good water steward will want to address so as to reduce its risks. ‘Sustainability’ is determined ‘by the long-term ability of the system to meet all of the water needs of users in the catchment, including ecosystems, bearing in mind, climatic shifts” (AWS, 2014, p.10).

The CEO Water Mandate has conducted studies and developed three guides since 2010 that contain well-developed frameworks and toolkits to guide the establishment of water stewardship programmes .The earlier guidelines are based on the key premise that success in responsible engagement, is critically tied to effective collective action among all parties with a stake in sustainable water management (CEO Water Mandate, 2010; 2013). During 2013, a guide was published that focuses on water and is designed to support the internal company discussion (CEO Water Mandate, 2013). The guide supports businesses to effectively connect the water resource management challenges of importance to multiple parties and develop a collective action engagement appropriate to the circumstances.

In 2015, the CEO Water Mandate developed a further, more comprehensive guide for managing integrity in water stewardship initiatives and contains seven principles (CEO Water Mandate, 2015). The guide was developed based on good practice as a response to the integrity challenges facing water stewardship initiatives that were identified during field work research. The researcher selected the seven principles that were applied from the guide to build the model of good water stewardship practices (CEO Water Mandate, 2015, p.7) and include:

- Alignment with public policy for sustainable water management
- Balanced representation of interests of all concerned parties
- Transparency of roles and responsibilities and adequate capacity to fulfill roles
- Clarity and transparency about the water challenges being and the agreed scope and intended benefits
- Clarity and transparency about governance of the water stewardship initiative.
- Tracking of outcomes against the stated objectives of the water stewardship initiative

- Fostering an ethos of trust, and establish expectations for behaviour of participants

The CEO Water Mandate guide includes practical tools that are aimed at ensuring high standards of integrity and transparency in water stewardship programmes. The integrity guide emphasises the objectives or intent of a water stewardship initiative, the participants and governance – and management processes. The intent relates to whether the stewardship initiative is interested in taking collective action to encourage and advance sustainable water management, or if the partners are pursuing self-interest or business interest. The integrity risks related to participants relate to qualities, capacities, commitment interests and behaviour of the participants as their actions influence the work of the water stewardship initiative. The integrity risks related to the governance and management processes relates to how well the initiative is designed, how transparent planning- and decision-making processes are, and for example how well it is monitored and financially managed (CEO Water Mandate, 2015).

Model development considerations

Considering the above literature, the researcher concluded that a model of a good water stewardship initiative/programme should incorporate:

- Integration of the learning from international organisations that have implemented water stewardship initiatives world-wide
- Private sector as key partners
- Building capacity in good water stewardship (WWF)
- Collective action around a shared water challenge
- Managing of water integrity risks through the implementation of principles that improve effectiveness and transparency (CEO Water Mandate, 2015)

The literature review revealed that the different international water stewardship initiatives have structured the establishment of initiatives within different time frames. This will be considered next for inclusion into the model of good water stewardship practices.

Literature review on water stewardship stages and phases

The four international organisations included in the literature review namely International IWaSP, WWF, AWS and the CEO Water Mandate, show similarities in its methodological

approaches to the establishment of a water stewardship initiative. All these organisations either implement water stewardship in a step-wise or a phased way and shows a distinct difference between internal processes within private sector organisations and collective action processes as is described below (Newborne & Dalton, 2016).

The WWF and AWS approaches start with internal action at the company's premises (Newborne & Dalton, 2016, figure 3. p. 40). Similarly, AWS incorporates three steps during the initial stewardship establishment with an internal focus and includes the three steps of "commit, gather, understand and plan". It is part of the process to create initial internal awareness within a company, but it is important that the next step towards collective action is initiated. The focus then shifts from internal "water management" to the next step of collective action whereby companies, communities, the public sector and non-governmental organisations (NGO's) engage to address issues and mitigate water catchment related risks together. WWF emphasises water awareness and knowledge during the first two steps whereby companies, their suppliers and customers have a high level as well as detailed understanding of their impact of their water usage as well as the associated risks. The WWF steps to better stewardships are summarised from the WWF International website. The final steps proposed by WWF is to influence governance to motivate and incentivise government to manage and invest in a water catchment area in a sustainable way. The AWS similarly shifts from internal action to collective action steps of "implement, evaluate, communicate & disclose" (AWS as cited in Newborne and Dalton, 2016, p. 34)

The CEO Water mandate on the other hand, presents a step- wise approach that relate to the internal processes of water stewardship within companies and during a guide in 2015, it presents a model of a phased approach towards establishment of a water stewardship collective action initiative. The step -wise approach addresses water stewardship within a company's boundaries and a progression towards collective action in the CEO Guide to Collective action (2013) The progression is described as steps, starting with the initial establishment that includes internal engagement within companies at the "site" or premises of the company and then progresses beyond the site to the water catchment area (Newborne & Dalton, 2016, p. 30).

In a later publication: The CEO Water Mandate's integrity guide (CEO Water Mandate, 2015), focuses on collective action in a phased approach that are directed beyond internal action and includes four phases similar to those formulated by the International Water Stewardship Programme as discussed below and thus not further described here. The phases include in the

following order of progression: Incubation and initial analysis, formalization, implementation and finally completion, renewal or upscaling.

The IWaSP phases are similar to the above phases by the CEO Water Mandate (2015) and are more specifically focused on collective action and stakeholder engagement as part of the process of establishment of a water stewardship programme or initiative. IWaSP follows a partnership approach whereby it acts as an ‘enabler’, an ‘advisor and honest partnership broker’ and ‘implementer’ (IWaSP 2015). It consists of a ‘five-phase process’ to guide the process of ‘partnership creation and execution’ namely: (Newborne & Dalton, 2016, p.58) “Prepare, Assess, Commit, Act, Scale and Exit” which forms a generic framework on partnerships which is applied by IWaSP specifically as the ‘Water Risk and Action Framework’ to address shared water risks in a participative manner on watershed level. It is a series of facilitated steps, skills development measures and tailored tools provided for a whole IWaSP partnership lifecycle: from the moment a partnership is formed to the execution of the goals set up and the end of implementation. Each of these phases contain key questions to determine if the appropriate actions for the particular phase have been efficiently implemented. The IWaSP has documented questions relating to key water stewardship practices which was compiled by the programme leaders from a combination of different learning- and knowledge exchanges. These questions are contained in Appendix B.

Model development considerations

The international literature of the lead organisations that implement water stewardship initiatives, all include a step-wise or phased approach in the establishment of these programmes. Therefore, the researcher chose to include this approach. The different phases applied by the IWaSP was considered most appropriate, given that UWaSP is one of its subsidiary programmes. Compared to the other approaches found in the literature, IWaSP is more specifically focused on collective action beyond the fence of corporate institutions.

Literature review on natural resources adaptive co-management

Natural Resource Management (NRM) includes water as a resource in its definition (Muralikrishna & Manickam, 2017) when it speaks of NRM being the sustainable utilization of natural resources. All the natural resources such as land, water, air amongst others, together

constitute the ecosystem that provide services for better quality to human life. The literature on collaborative natural resources management is therefore considered a further useful knowledge base to inform the UWaSP evaluation model development for good water stewardship. Ansell and Gash 2007 as cited in Fabricius and Currie, 2015 have defined criteria of what is known as adaptive co-management of natural resources that will complement the practices that were extracted from the existing literature on water governance and water stewardship. Adaptive co-management is founded on the merging of two approaches namely adaptive management and co-management (Berkes 2009; Plummer 2009) as cited in Fabricius and Currie (2015). It is considered adaptive co-management when participation, learning and doing becomes successive cycles (Berkes 2009; Huitema et al. 2009) as cited in Fabricius and Currie (2015). Adaptive co-management, according to Fabricius and Currie (2015) refers to an ongoing process that allows stakeholders to share responsibility within a system whereby they can explore their objectives, find common ground, learn from their institutions and practices, adapt and modify them for subsequent cycles. Adaptive co-management of natural resources is considered an effective way of management of complex, multi-scale and - level systems with challenges that require linking of diverse types of organisations through partnerships (Carlsson and Berkes 2005, Armitage, Plummer et al., as cited in Fabricius and Currie , 2015). Different authors have developed success criteria for adaptive co-management initiatives. The adaptive co-management was developed by Fabricius and Currie (2015, p. 172), based on the work of Cundill and Fabricius (2010), Clark and Clarke (2011) and Bos, Brown & Farrelly, (2013). The adaptive co-management criteria as is shown in Table 2,p. 30 were compared to the CEO Water Mandate integrity principles (2015) that were found inclusive off all water stewardship- and governance criteria. The NRM literature seems to emphasise to a larger degree that the water stewardship literature, the criterion of adaptive governance that includes knowledge generation, individual – and organisational learning Folke, Fabricius, Cundill & Schultz, (2005), as cited in Cundill & Fabricius (2009). The WWF's approach mentioned during the review also emphasises improving through learning and acting (Newborne & Dalton, p.34) and the principles in Table 2, p. 30 includes capacity development of role players.

Table 2. Water Stewardship principles and corresponding adaptive co-management criteria

Water stewardship Integrity Principles CEO Water Mandate (2015)	Adaptive Co-management and Adaptive Governance criteria Fabricius & Currie (2015)
Alignment with public policy for sustainable water management	Criterion 10 Are there linkages to provincial, national and global processes and role players?
Balanced representation of interests	Criterion 1 Is there balanced participation in meetings and discussions?
Transparency of roles and responsibilities and adequate capacity	Criterion 2 Is information being shared and understood? Criterion 12 Social learning Criterion 13 Conflict resolution capacity (Mc Dougall, C. and Banjade, M.R., 2015) Criterion 14 Ability to reorganize in times of change or change “fitness” and flexibility amongst stakeholders
Clarity and transparency about the water challenges being and the agreed scope and intended benefits	Criterion 6 Are there obvious winners and losers?
Clarity and transparency about governance of the water stewardship initiative.	Criterion 2 Is information being shared and understood? Criterion 9 Are enough resources and time allocated to the public participation part of the initiative? Criterion 7 Is the process flexible and adaptive? Criterion 3 Are people able and willing to learn from each other? Criterion 15 (Adaptive Governance) Knowledge generation and learning, organizational learning, collaboration, devolution of management rights or power sharing, participation, organizational flexibility, trust, leadership, social memory, and the formation of actor groups or teams (Folke et al. ,2005)
Monitoring: Track outcomes against the stated objectives of the water stewardship initiative	Criterion 5 Are there signs of progress towards shared goals and a shared vision? Criterion 11: Alternative approaches to monitoring, including monitoring of process and outcomes through reflection, learning and collaborative processes (Cundill and Fabricius, 2009)
Foster an ethos of trust, and establish expectations for behaviour of participants	Criterion 4 Is there progress in the development of mutual trust and respect between stakeholders? Criterion 13 Flexibility among stakeholders

Note: the criteria are numbered according to the original numbering given by the authors

The literature on water stewardship – and water governance has been reviewed, followed by literature on natural resources management. The literature on adaptive co-management indicates that a water stewardship programme such as UWaSP could be regarded as an adaptive co-management system of natural resources and therefore the monitoring and evaluation literature- and models could be considered and applied when developing the good water stewardship practice model as discussed in the next sections (Ansell and Gash, 2007 as cited in Fabricius and Currie, 2015).

Literature review of adaptive natural resources monitoring and evaluation models

Natural resource management programmes usually include social- as well as environmental outcomes (Brechin, Wischusen, Fortwangler, & West, 2002; Salafsky, 2011 as cited in Chapman, 2014). Particularly in developing countries, the environmental issues and the wellbeing of humans are intricately linked (Adams et al., 2004; Tallis, Kareiva, Marvier, & Chang, 2008, as cited in Chapman, 2014). A particular challenge for natural resources programmes is the wide scope of monitoring and evaluation (M&E) and expertise required because it often contains diverse processes and outcomes.

The M&E model was developed by Chapman (2014) to provide a framework in response to the relative under- development of M&E approaches to adaptive co-management initiatives in natural resources. The model is based on a body of research known as ecosystems services research (Groot, Alkemade, Braat, Hein, & Willemsen, 2010; Oudenhoven, Petz, Alkemade, Hein, & de Groot, 2012 as cited in Chapman, 2014,p.45).

The Chapman's (2014) conceptual framework that was primarily informed by adaptive co-management literature (Bellamy, Walker, McDonald, & Syme, 2001; Campbell, Sayer, Frost, Vermeulen, Perez, Cunningham & Prabhu, 2001; Stem, Margoluis, Salafsky, & Brown, 2005; Walters & Holling, 1990) highlights processes and outcomes critical to the success of co-management initiatives. A framework for monitoring social process and outcomes in collaborative environmental programmes would ideally apply the same logic that guides the design and delivery of the programme to inform its monitoring and evaluation (Chapman, 2014). Chapman (2014) presents a conceptual framework that informs the Monitoring and Evaluation (M&E) of collaborative environmental programmes with many of the variables being informed by a review of the adaptive co-management literature of Carlsson & Berkes,

2005; Conley & Moote, 2003; Cundill, 2010; Cundill & Fabricius, 2010; Folke et al., 2005; Innes & Booher, 1999a,2000; Plummer, Crona, Armitage, Olsson, Tengoe, Yudina, as cited in Chapman, 2014). The framework is selected as the conceptual framework for the evaluation and demonstrated in Figure 2,p.37. based on the UWaSP evaluation model. The six components of the Chapman (2014) model is discussed during the next section and incorporates the programme need, programme activities, pathway processes that include mediating processes, moderating processes, programme outcomes and the programme value (Chapman, 2014, p.47).

Literature review on contextual influences

The CEO Water Mandate guide (2015) contained a developed set of questions that was contained within a toolkit to conduct a context assessment. The tool included suggested dimensions of contextual factors playing a role in the setting up of a local water stewardship initiative (CEO Water Mandate ,2015, p. 77). It furthermore contained formulated questions which were extracted and grouped into main dimensions inserted into the interview guide (Appendix B). The CEO Water Mandate guideline provides useful knowledge on the cross-cutting influence of contextual factors affecting the integrity of water stewardship initiatives (CEO Water Mandate, 2015, p.19)

The main factors influencing water stewardship initiatives form part of the process evaluation sub-questions and require inclusion in the conceptual model as an external variable. These factors include political, market- and financial, socio-economic and cultural, technical; environmental; policy, institutional and regulatory (CEO Water Mandate, 2015, p.19)

Literature review on the South-African contextual influences

The research sub-question relating to contextual influences serves to explore the local, South African influences that play a role in the establishment and implementation of the UWaSP programme.

Published studies or articles on water stewardship in South Africa was found in the literature to review and instead literature on integrated resources management (IWRM) and catchment management agencies (CMA's) was reviewed.

The management of water resources in South Africa is legislated through the National Water Act (Act 36 of 1998) and provides opportunities for water resource management institutions to be established. (Meissner, 2013). This act calls for redress of the apartheid inequities in

terms of access to water resources and resulting benefits (Hall, 2007 cited in Funke et al., 2007). Social- and economic inequity and high levels of poverty leads to practices that have negative impacts on scarce water resources (Funke, Oelofse, Hatting, Ashton & Turton, 2007). The Focus of the National Water Act is on decentralisation, which places an emphasis on public participation in water management (Meissner, Stuart-Hill and Nakhooda, 2017). Ineffective water governance was found as the world-wide cause of the current water crisis facing the world (Turnton et al., 2007 cited in Funke et al.,2007). An integrated resources management approach have been, according to Funke et al. (2007), widely adopted as a solution to deal with water governance and address health, economic- and environmental losses.

In the South African context, IWRM is understood as realizing the need for integrated management of all aspects of water resources, delegating management functions, and achieving the participation of citizens in water resources management (Claassen 2013 cited in Meissner, Funke & Nortje, 2016). The difficulty in integrating the actions of different sectors was highlighted by Biswas (cited in Funke et al., 2007 and in response the term constructive engagement was added which implies that inputs from all three sector; government, the private sector and civil society are required, and that gender sensitivity should be included in the establishment of an IWRM. In a study conducted by Funke (2007) in the Mhlathuze Catchment in South Africa where IWRM is being implemented, it was found that there were serious challenges and constraints. The study emphasises the water reform processes post the abolition of apartheid which places a strong focus on the allocation of water. In South Africa, water is a political issue which requires recognition that water allocation is a politicized process (Turnton et al.,2007).

Four principles that relate to IWRM named the Dublin Principles include water being scarce and vulnerable, water management- and developed should be based on a participatory approach; women play a central part in the provision, management and safeguarding of water and finally water should be recognised as having an economic value. It is particularly necessary to achieve effective stakeholder participation in the water management process. Ensuring that all stakeholders are actively involved in decision-making processes is considered a great challenge (Hall, 2007 cited in Funke et al., 2007) in the South African context. Involvement of all stakeholders in decision-making processes was also found difficult in the rural area because of a lack of capacity to participate in consultative processes. The introduction of women in decision-making and increasing their participation is another challenge in societies where women have a much less influential role than men do (Global Water Partnership, 2000 cited in Funke et al., 2007). The economic value of water and having to pay for it poses a challenge

to convince people in rural South Africa who previously had no access to potable water or formal sanitation systems (Funke et al., 2007). The overall need for governance skills, particularly mediation skills, are emphasised by Tropp (Cited by Funke et al., 2007) as an important requirement for IWRM programmes to function successfully. Ashton 2007, (cited in Funke et al., 2007) notes that “there are additional factors to the European defined principles of good governance namely low levels of literacy, lack of familiarity with technical terminology, widespread poverty, lack of familiarity with democratic processes and mistrust of representatives who are considered self-appointed.” Many developing countries have been found to have problems and unique local characteristics making a generic solution difficult to work or be sustainable in the long-term without taking in consideration local conditions (Ashton, 2007). In South Africa, water is not equitably distributed, and people are particularly aware of participation in decision-making processes after having experienced national democratisation . Local Community members often carry an important source of information, called indigenous knowledge that could generate different options that lead to an acceptable solution to water related issues (Dungumaro and Madulu cited in Funke et al., 2007). The study by Funke et al., (2007) shows that “a lack of integration at the planning stage coupled with the high turnover of technical staff in municipalities, as well as provincial and national government departments, a shortage of institutional memory and very little if any skills transfer and succession or retention plans, presents serious problems to the realisation of IWRM.” Reddy (2006) proposes a greater attention to capacity building and empowerment. By establishing mechanisms to address these capacity building issues , many of the problems would be solved. The findings of the study reinforces the fact that IWRM in South Africa has not been successful at the time of the study : The challenge was to ensure that management and institutional capacity of government supported by good governance practices, would become effective. Links between the relevant national and provincial government departments and agencies, as well as local authorities are also important to strengthen and facilitate coordination.

Catchment Management Agencies are a form of an IWRM. There are two CMA’s established namely the Breede-Gouritz and the Inkmati-Usutu CMA’s and the remaining seven are in the process of being established. (Meissner et al., 2017). A case study of the Breede-Overberg Catchment Management Agency later known as the Breede-Gouritz Catchment Management Agency was conducted by Meissner, Funke and Nortje (2016). The framework of adaptive co-management was applied which made it relevant for the contextual question in the UWaSP study as both Catchment Management Agencies (CMA’s) and water stewardship programmes such as UWaSP, contain elements of adaptive co-management. The first part of the framework

that deals with institutional design of CMA's politics and strategies involved in its formation are considerably dissimilar from water stewardship initiatives (Meisner et al., 2016) .The adaptive co-management part of the framework incorporate three concepts extracted from the literature namely: collaborative stakeholder engagement, adaptation through learning (experimentation) as well as a bioregional approach to water resources management which means implementation of management structures at the river basin level (Meisner et al., 2016). The CMAs are expected to cooperate and obtain agreement on water related issues and challenges among various stakeholders from different interested parties. This complements the institutional prescription of collaboration between governmental and nongovernmental stakeholders that forms part of adaptive co- management (Huitema et al. 2009). Another important element of adaptive co-management that is relevant here is the idea of assessment, which can enable one to identify appropriate institutional responses to change, to facilitate an adaptive approach, and to secure learning at multiple levels (Armitage et al. 2009). A process that is emphasised as a first step in the establishment of a CMA, is stakeholder identification from previously disadvantaged groups of which many are emerging farmers⁵. Inclusion of a wide range of stakeholders are therefore an important feature of adaptive co-management. Huitema et al., 2009 has warned that the level of success of stakeholder participation is difficult to assess. Du Toit and Pollard (2008) argue, "South Africa has yet to implement a comprehensive and functional approach to stakeholder engagement at the level of water management areas" and as a result, South African stakeholders often become confused, bored, demotivated, and fatigued (Du Toit and Pollard cited in Meissner et al., 2016). The study by Meissner et al., 2016 elaborates on the aggregation rule of establishment of CMA's. This entails decision-making that needs to take place means of democratic agreement, cooperation and open discussions in meetings and reports that the CMA board in this case study strives to reach consensus during decision-making; a strategy that prevents stronger board members from over-powering the less powerful ones (Meissner et al., 2016). Inputs into the National Water Resources Strategy, which is reviewed every five years, takes place through a consultative process in which stakeholders in the water management area go through a consultative process. Experiential knowledge of stakeholders and communication is highly valued (Meissner et al., 2016). The scientific community is also highly valued, yet a too strong focus on technocratic knowledge could be considered problematic in order to promote adaptation successfully. The

⁵ An emerging farmer may be identified as black farmers who receive support to engage in agriculture and who have a desire to increase commercialization of their production (Denison, Manona, 2007 and van Averbek, 2008 cited in Meissner, 2016).

knowledge produced by scientists and engineers requires supplementation with other knowledge (Meissner et al., 2016). The CMA case example has focused on making a positive and meaningful impact to the broader social context within which it is based. Meissner, 2016 summarises : “Some of the main components of this vision are inclusion, stakeholder engagement and participation, decentralized decision making, and mediation between human and environmental priorities in an effort to ensure the availability of good-quality water and to assist in poverty alleviation. This translates into the need to support social redress and economic development while also maintaining the functioning of the vitally important aquatic ecosystems in the Breede-Overberg area (In BOCMA 2011, Page 2012, cited in Meissner et al., 2016). Stakeholder engagement is conducted with empathy, prior knowledge engagement and patience; BOCMA 2011 cited in Meissner et al., 2016). Another key element of the CMS in this case is strategic adaptive management which includes two phases : The establishment of a learning vision in a participative way and the development of a common understanding of the context within which the CMA operates. It was found that stakeholders become fatigued when asked to invest their time in similar processes again and again without seeing any worthwhile results. When they lose interest and willingness to further participate, they lose the ability to adapt and experiment (Meissner et al., 2016). Meissner et al., 2017 cites Meissner and Funke., 2014 “When it comes to the involvement of various stakeholders, the results of previous research studies conducted on the Breede-Overberg CMA have indicated that it is not always feasible to include all stakeholders in a water management area in the development of a CMA. An important issue raised is “who benefits and for what (Strange 1996 cited in Meissner et al., 2016). In this CMA case, the question could not be answered, and it could be assumed that the well-resourced actors are likely to receive most of the benefits and that socio-economic development and redress as envisaged by the National Water Act, has not been achieved (Meisner et al., 2016). Finally, it was found that the long time frame between initial stakeholder engagement and the final establishment of a CMA adds to the difficulty of successfully establishing a CMA.

Conceptual model for the theory- and process evaluation

Figure 2 depicts the UWaSP evaluation model that was adapted from the Chapman (2014) conceptual framework.

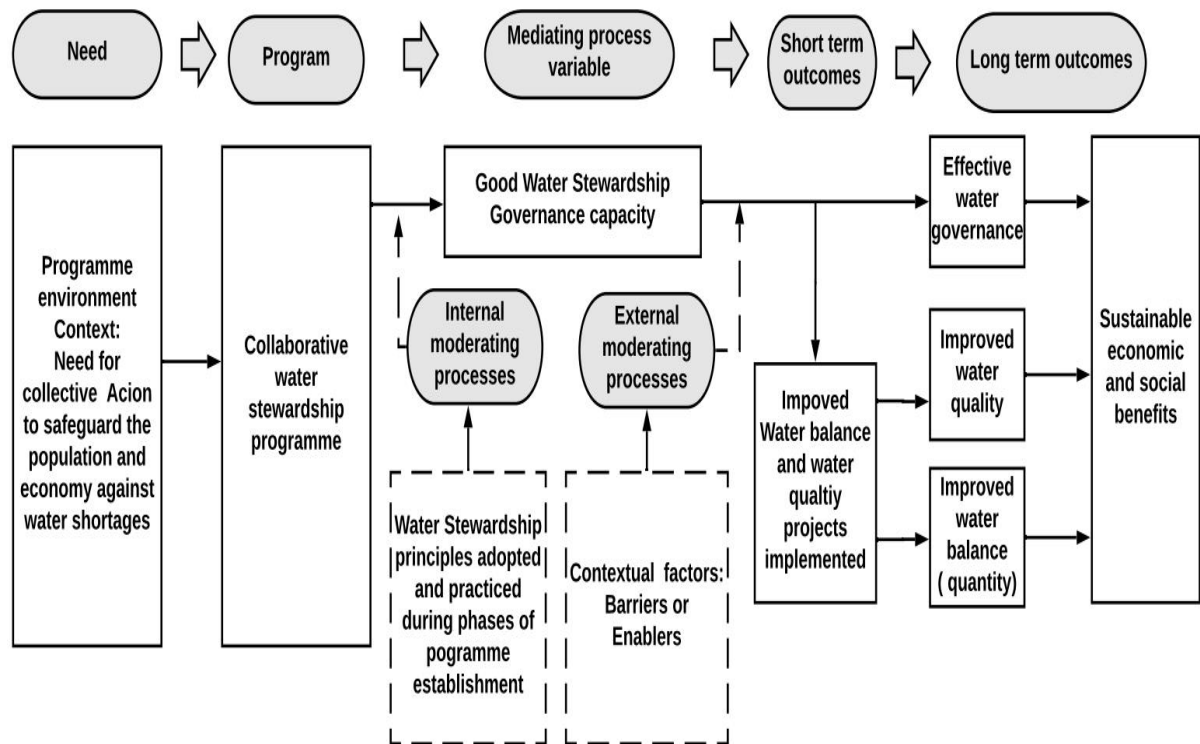


Figure 2. The conceptual framework for the evaluation adapted from Chapman’s conceptual model (2014)

Mediating process variables

Chapman (2014, p. 48) states that the development of natural resource governance capacity is a mediating process variable that is a critical pathway to the programme achieving its outcomes. The Chapman model lends itself to application in the UWaSP case, particularly concerning the pathway process and moderating process variables. The pathway process variables relate to the development of natural resource governance capacity and the moderating processes that could be externalities. Examples of these externalities are policy or socio-economic drivers (Chapman, 2014, p. 45) Internal moderating processes are programme specific processes which are more focused and related to programme service delivery, targeting and participant participation- and commitment. These internal and external pathway processes

and moderating processes, according to the Chapman model, together, make up the mediating process variable. This variable constitutes the emergence of environmental governance capacity that, according to the researcher, could be equated to the water stewardship mechanisms for overall governance.

Internal moderating process variables

The water stewardship practices are shown in Figure 2, p.37 as mediating variables mediating the relationship between the identified social and environmental need, the programme and its intended outcomes.

The good water stewardship practices that serves as the evaluation criteria for this evaluation were generated from a synthesis of the literature on international good water stewardship-governance and natural resources management. This synthesis resulted in the identification of seven good water stewardship practices. These practices form the evaluation criteria for the evaluation and considered appropriately similar to the internal mediating process of the Chapman model (2014) that constitutes the internalities of the moderating processes in Figure 2, p. 37. There are specific criteria, or internal institutional arrangements, systems and structures that constitute good water stewardship practice. These arrangements are expressed in seven good water stewardship principles that are being practiced along the phases of programme establishment and are shown in Table 3, p. 30.

Table 3. The water stewardship good practices (CEO Water Mandate, 2015, pp. 21-26)

Good practices number	Good water stewardship practices (CEO Water Mandate, 2015, pp. 21-26)
1	Alignment to, support of and strengthening of public policy that advances sustainable water management
2	Ensured appropriate and balanced representation of interests throughout the course of the establishment of the water stewardship programme
3	Clarity and transparency about the roles and responsibilities of water stewardship participants and ensuring capabilities of participants are sufficiently developed to fulfil these responsibilities and roles
4	Be clear and transparent about the water challenges being addressed by the water stewardship initiative, as well as the agreed scope and intended benefits
5	Be clear and transparent about how the water stewardship initiative is to be governed
6	Track outcomes against the stated objectives of the water stewardship initiative
7	Foster an ethos of trust, and establish expectations for behaviour of the water stewardship initiative's participants

The conceptual framework presented in Figure 2 .p. 37 is based on the assumption that, during the different phases of establishment of a water stewardship programme there are good water stewardship principles that, if practiced, would build water stewardship governance capacity which would mediate between the programme and outcomes. The typical phases of globally recognised water stewardship programmes are shown in Figure 3, p.40. The good water stewardship practices are implemented to different degrees during the life span of the programme.



Figure 3. The five phases of a water stewardship programme

The model contains the five phases of the International Water Stewardship's Water Risk Action Plan, which were considered the most comprehensive and appropriate as it focuses specifically on the collaboration and the broader partnership features of water stewardship. The implementation of these good water stewardship practices which are recommended during the different establishment phases of the programme, is assumed to result in shared programme benefits. The practices are particularly salient when such efforts involve participants with varied and at times conflicting interests and increases the effectiveness and likelihood of achieving the goals of the initiative. These principles, when practiced, generate greater credibility, reduces reputational risk of participants, fosters long-term engagement and cooperation with affected stakeholders and fosters transparency through clear rules of engagement. (CEO Water Mandate, 2015. p. 13). The good water stewardship literature proposes that these principles are put into practice during different phases of a water stewardship programme's establishment. If certain practices have not been fully realised during a certain phase, the programme establishment is limited in its continuation and implementation may be hindered. The hinderance could be either because of internal or external contextual influences. The phases are labelled "Prepare, Asses, Commit, Act, Scale & Exit" as shown in Figure 3,p. 40 and defined below (<https://ceowatermandate.org/wraf/>).

Phase 1: "Prepare"

This phase entails an understanding of local water challenges, possible interventions and identification of potential participants (<https://ceowatermandate.org/wraf/phase-5-prepare/>)

Phase 2: "Assess"

The assess phase includes the initiation of the water stewardship and the beginning of formalisation. Internal structures are developed to ensure long term sustainability and impact (<https://ceowatermandate.org/wraf/phase-5-assess/>)

Phase 3: "Commit"

At the end of the commit phase, the water stewardship initiative is fully established, and partners' commitment is formalised in a written agreement. The Governance mechanism is fully functional and a budget for project initiation is available. Projects or initiatives is being developed to address the key challenges and budgets developed/presented. (<https://ceowatermandate.org/wraf/phase-5-commit/>)

Phase 4: “Act”

The focus during the “act” phase is on activity implementation, ongoing monitoring, evaluation and learning. Partners are continuing to commit to funding/in kind contributions to implement the initiatives/projects. The projects identified for action is aligned to the theory of change (relevant). There are sufficient resources available for project management. Knowledge is captured and shared (<https://ceowatermandate.org/wraf/phase-5-act/>)

Phase 5: “Scale and Exit”

The focus is on the decision-making regarding continuation, modification, upscaling or closure. The lessons learnt is captured and shared and the programme is reviewed/evaluated. This phase is not appropriate for the purpose of the evaluation, given that the programme is currently in its implementation (“act”) phase (<https://ceowatermandate.org/wraf/phase-5-scale-exit/>).

The integrated model

Table 4, p. 42, gives an overview of the globally recognised good water stewardship practices model and the different processes, systems and actions that form the body of evidence required at each of the phases that has guided the evaluation.

Table 4. Model of globally recognized good stewardship practices (CEO Water Mandate, 2015, pp. 21-26)

Good water stewardship practices Derived from CEO Water Mandate (2015)	Phase 1 Prepare	Phase 2 Assess	Phase 3 Commit	Phase 4 Act	Phase 5 Scale &Exit Measures
Alignment with public policy for sustainable water management(CEO Water Mandate, 2015, pp. 21)	Undertake a participatory context analysis (Risk and opportunity assessment)	Assess potential of capture risks Establish monitoring and oversight		(Programme review and learning events)	Assess capture risks during completion
Balanced representation of interests (CEO Water Mandate, 2015, pp. 22)	Identify and map interests affected by the water stewardship initiative (Identify focus areas)	Determine affected stakeholder representation in the WSI (Beneficiaries identified)	Monitor representation and participation	Continuously Engage affected and potentially new stakeholders	Engage affected stakeholders
Transparency of roles and responsibilities and adequate capacity (CEO Water Mandate, 2015, pp. 23)	Analyse participant records and incentives (Key drivers and stakeholders)	Assign appropriate roles and responsibilities Build Capacity (Experts identified)	Assign appropriate roles and responsibilities	Assign appropriate roles and responsibilities	Assign appropriate roles and responsibilities
Clarity and transparency about the water challenges being and the agreed scope and intended benefits (CEO Water Mandate, 2015, pp. 24)	Undertake a participatory context analysis (Risk and opportunity assessment)	Define, scope, objective and public interest of the WSI	Regularly question and verify the theory of change	(Continuously review existing and new challenges and ensure alignment to theory of change)	Learning and knowledge sharing
Clarity and transparency about governance of the water stewardship initiative. (CEO Water Mandate, 2015, pp. 25)	(Governance structure established)	Establish equitable decision-making structures, communication and finance and determine form (Governance structure formalized)	Monitor WSI participation adherence to governance	Monitor WSI participation adherence to governance	Participatory final evaluation and audit Embed activities and outcomes into existing institutions
Monitoring: Track outcomes against the stated objectives of the water stewardship initiative (CEO Water Mandate, 2015, pp. 26)	Develop programme theory	Establish M&E systems Establish an exit strategy	(Establish detailed operational plan Monitoring plan developed and implemented)	Communicate about WSI performance (Implement operational plan and monitor performance)	Participatory final evaluation and audit Embed activities and outcomes into existing institutions
Foster an ethos of trust, and establish expectations for behaviour of participants(CEO Water Mandate, 2015, pp. 26)		Clarify expectations of WSI behaviour	Clarify expectations of WSI behaviour	Clarify expectations of WSI behaviour	

External moderating process variables

The external moderating process variables include the inherent characteristics of participants as well as contextual variables that operate and originate outside of the programme (Chapman, 2014, p.49). These externalities could include precipitating crisis that have been instrumental in triggering the initiation of an environmental co-management programme such as UWaSP. These externalities can also, according to Chapman (2014), influence the ability to affect key mediators such as governance capacity, but are unlikely to be affected by the programme activities. It is therefore not possible to measure these, but to rather use it interpretively to understand or “enhance the validity” of attributions made between mediators and outcomes.

The contextual influences that emerged through the literature will guide the researcher. These are grouped into main factors influencing water stewardship initiatives namely political, market- and financial, socio-economic and cultural, technical; environmental; policy, institutional and regulatory (CEO Water Mandate, 2015, p.19) and are defined in the interview guide (Appendix B) The guideline provides useful knowledge on the cross-cutting influence of contextual factors affecting the integrity of water stewardship initiatives (CEO Water Mandate, 2015, p.19).

Conclusion

The literature review of international water stewardship, water governance and co-management approaches to natural resources has provided the foundations and principles to develop a model of good water stewardship practice. The researcher found Chapman’s (2014) framework relevant to adapt in order to integrate the various considerations from the literature into a conceptual framework for the evaluation. The model that integrates all the good water stewardship practices across the five different phases is contained in Table 4, p. 42.

Chapter 3 Methods

This chapter describes the research methods applied to answer the theory and process evaluation questions. The evaluation is addressed in two separate sections for the two types of evaluations; the theory- and process evaluations respectively. The evaluation design for the theory- and process components of the evaluation is first outlined. The data sources that were applicable to both evaluations are introduced next and finally, the methods for the two evaluation types are discussed in two separate sections.

Evaluation Design

The evaluation model based on Chapman (2014) was applied throughout the evaluation. It incorporates the globally recognised good water stewardship practices that were formulated as the evaluation criteria, the phases of establishment as well as the contextual factors that have influenced the implementation of the UWaSP programme. The focus for the theory evaluation is to determine if the globally recognised good stewardship practices have been established during the different phases of the programme and the process evaluation focuses on determining if these practices have been implemented accordingly.

Evaluation design for the theory evaluation

The overarching theory evaluation question is to determine the extent to which the UWaSP programme has been established according to globally recognised good practice for water stewardship and/water governance stakeholder fora. The diagrams shown in Figures 4 depicts the evaluation design, the steps followed and the activities for the theory evaluation.

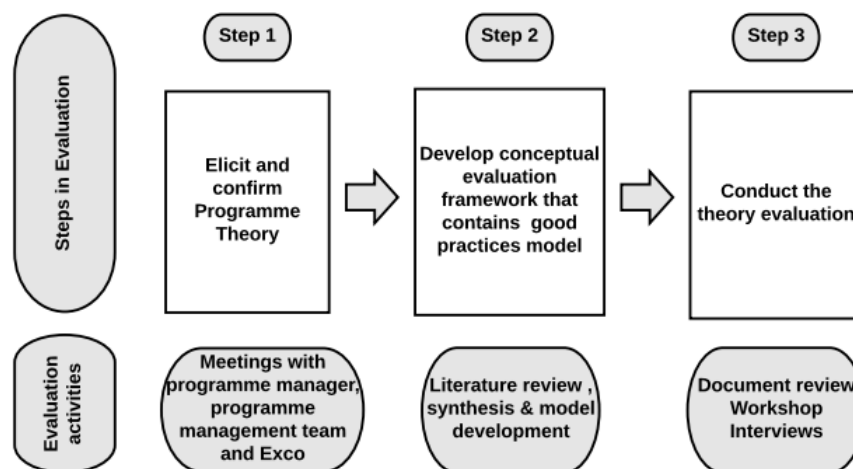


Figure 4. Theory evaluation design for the UWaSP theory evaluation

Evaluation design for the process evaluation

The process evaluation question is to determine the extent to which the UWaSP has been implemented according to globally recognised good water stewardship practice at approximate mid-point and the influences of contextual factors in the implementation of a local water stewardship initiative. The diagrams shown in Figure 5 depicts the evaluation design, the steps followed and the activities for the process evaluation.

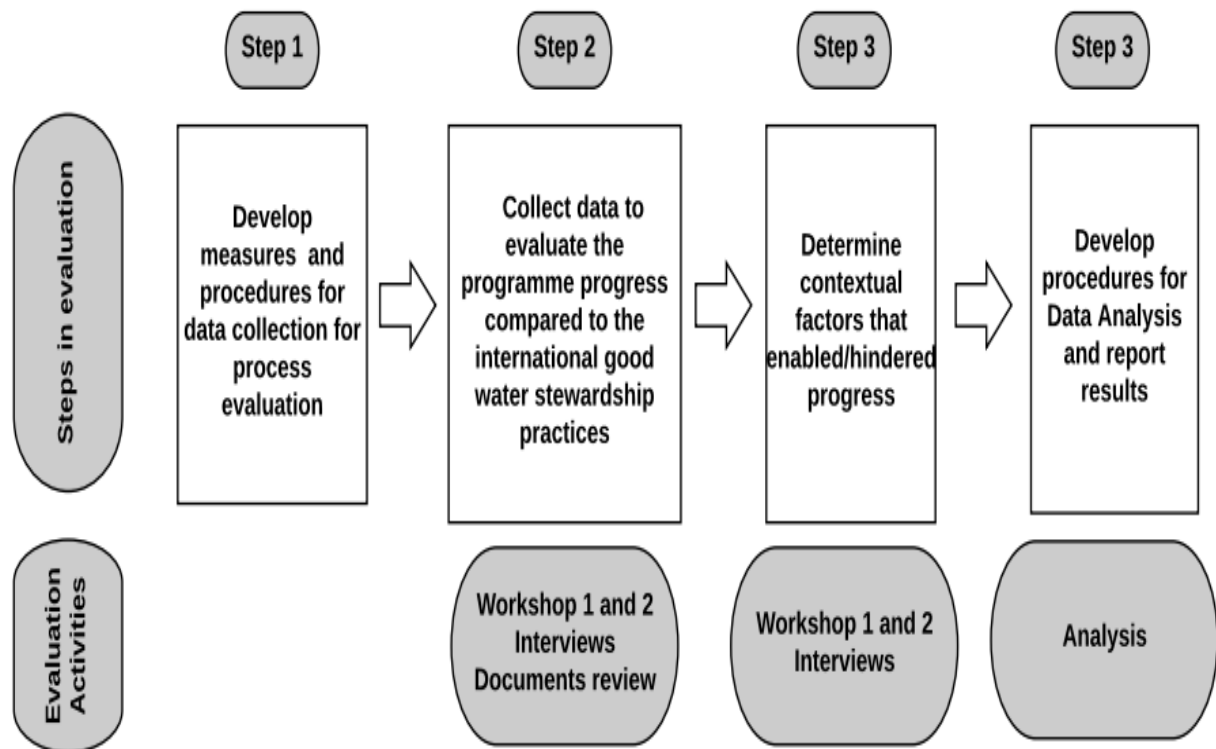


Figure 5. Process evaluation design for the UWaSP process evaluation

Data sources for both theory and process evaluation

Documents

The document requirements listed in table 5, p. 46 under the first column : Document serves as evaluation criteria, were selected from the international literature and formed part of the evaluation model. The documents are categorized in the table to indicate if it was an evaluation criteria for a particular phase or if it supported the researcher in the evaluation.

Table 5 Documents reviewed during the evaluation

Documents	Document serves as evaluation criteria	Supportive information to aid the evaluation	Documents are confidential and available upon request	Document generated during the evaluation
Concept note	x			
Needs Assessment	x			
Risk assessment and communication plan	x			
Letter of intent	x			
Status Quo report	x			
Memorandum of Understanding	x			
Governance structure presentation		x		
Water Risk Action plan of operations 2017	x			
Water Risk Action plan of operations 2018	x			
Progress report 2016		x		
Progress report 2018		x		
Communications plan and risk assessment	x			
Monitoring framework	x			
Water Risk Action Framework approval letter	x			
Workshop project progress report February 2019		x		x
Workshop 1 November 2018 report		x		x
Workshop 2 report January 2019		x		x
Workshop 1 presentation and progress report		x		x
Partnership progress presentation		x		x
Project progress template and report		x		x
Financial information **		x		
Attendance registers **		x		
Minutes of meetings **		x		
Annual IWaSP monitoring reports		x		x

All documents not marked are available upon request except marked with ** are confidential. Presence of a document is indicated with an “x”.

Participants

Table 6 contains the participants that were included in the evaluation. The participants were anonymised and given numbers as references in the evaluation document used to document statements and quotations.

Table 6. Participants during meetings, interviews and workshops for the evaluation

Measure	Role in programme	Sectors	Number	Gender	
Meeting 1&2 to elicit programme theory	Programme Managers		2		
		Civil Society	1	Female	
		Civil Society	1	Female	
Meeting 3 to confirm programme theory	Programme steering committee		6		
		Civil Society	1	Male	
		Civil society	1	Female	
		Civil Society	1	Male	
		Civil Society	1	Female	
		Private Sector	2	Male	
Interviews for programme theory and process evaluation	Programme steering committee & management team		5		
		Civil society and Development /donor organisations	Interviewee 9	1	Female
			Interviewee 10	1	Female
			Interviewee 12	1	Male
			Interviewee 13	1	Female
	Private sector	Interviewee 1	1	Male	
	Broader partnership Platform		9		
	Private sector	Interviewee 2	1	Male	
		Interviewee 3	1	Male	
		Interviewee 4	1	Female	
		Interviewee 14	1	Male	
		Public sector	Interviewee 5	1	Male
			Interviewee 6	1	Female
			Interviewee 7	1	Female
			Interviewee 8	1	Male
Civil society (donor)	Interviewee 11	1	Female		
Workshops for programme theory and process evaluation	Partnership platform	All sectors	27	Aimed at 50% Female 50% Male	
		Steering committee and management team	All	7	
			5	Female	
			2	Male	

Theory evaluation

Measures for the theory evaluation

Interview measures

The interview method was found appropriate for both the theory – and process evaluation. The interviews provided qualitative data for an in-depth review and supported the researcher to further explore issues that have been identified during data collection through the document review, meetings and workshops. Interviews were held with 14 members of the UwaSP partnership platform and management steering committee mentioned under participants and outlined in Table 6 , p 47 . An interview guide (Appendix B) was developed to guide the semi-structured interviews in order to elicit responses relating to the establishment of the water stewardship programme and contained theory evaluation questions that were extracted from the literature on water stewardship good practice necessary for the establishment the programme.

In order to better understand the extent to which the establishment of UWaSP conforms to globally recognised good practice, the contextual factors inhibiting or promoting establishment needed to be explored. The contextual factors that were found to be generally relevant for water stewardship programmes are represented in the conceptual framework as an external moderating factor and provided a guideline during interviews in order to determine the contextual inhibitors or enablers to the establishment of the programme.

The procedures for the literature review and development of the Model of globally recognised good water stewardship practices have been presented in Chapter 2.

Procedures to confirm programme theory and the conceptual framework for the evaluation

Meeting 1 with the programme manager

The researcher first conducted a desk-top study of the programme documentation in preparation where after a second semi-structured meeting was held with the programme manager to elicit an initial programme theory.

A variety of facilitation instruments to elicit responses illustrated in Figure 6, p. 49 were used

Workshop procedures

The two workshops were held and served to generate data about various aspects of the theory evaluation to determine the extent to which the water stewardship programme has been established according to globally recognised good water stewardship practice as well as determining the contextual influences playing a role in its establishment. A workshop agenda and instruction guide for the two workshops and procedures are contained in Appendix D. The first workshop was held with the broader partnership platform on 21st November 2018, including 27 members from the different stakeholder sectors as described in the participant section of this chapter and listed in Table 6, p. 47 . The second workshop, held on the 22nd January 2019, included the management steering committee, consisting of seven members as described in the participant section (Table 6, p. 47). In order to encourage active participation and to depict the programme theory at the various stages to allow visual representation of the discussions, workshop instruments as seen in Figure 5 were utilised. It consists of large facilitation boards with input cards and pens for all participants to provide anonymous input. The researcher posed questions, using the templates outlined in Appendix D and the participant inputs were clustered and displayed on the boards. For the purpose of discussion, the workshop attendees rated the clusters against their own understanding and not as part of the evaluation process. This was followed by a discussion regarding contextual influences and input on recommendations were facilitated by the researcher; extracting questions from the interview guide (Appendix B).



Figure 7. Workshop facilitation instruments applied during the evaluation

Interview procedures

Interviews were held with the stakeholders of the UWaSP partnership as listed under “participants”, Table 6, p.47 in order to establish to evaluate the extent to which the programme has been established according to globally recognised good water stewardship practice. They were selected from a list provided by the programme manager of UWaSP stakeholder representatives of the private- and public sector and civil society. The list consisted of key stakeholders whom had regularly attended stakeholder meetings and interventions. The aim was to include as many management committee members as possible in the interviews as most of the knowledge about the inner functioning of the programme resides with them. The researcher contacted all interviewees and those whom had responded, were selected. Representation of all three sectors being civil society, the public-and private sectors; was attained and a minimum of four participants per sector was achieved. Table 6, p.47 shows the sectoral distribution of the 14 interviewees. The participants were informed of the study purpose, ethics and anonymity of responses. All interviewees were made aware that the interviews would be recorded and signed a consent form prior to the interviews. The semi structured interviews were recorded and transcribed, using “Temi” (<https://www.temi.com/>) as an online application. On re-reading the transcriptions while attending to the audio recordings the researcher edited the parts of documented interviews that were unclear or incomplete.

Above describes the measures implemented and procedure followed to gather the necessary data to answer the theory evaluation question. The next section describes how the data gathered was analysed.

Analysis Procedures for the theory evaluation

The conceptual framework developed for the evaluation that is described in Chapter 2, Figure 2, p.37 guided the analysis of the data gathered in order to conduct the theory evaluation. The theory evaluation is interested in answering the question as to how the programme has been established – in other words, what design mechanisms; systems, structures and processes have been set-up according to the globally recognised good practice that was determined during the literature study and contained in the conceptual framework as “good water stewardship practices”. The theory evaluation analysis will apply these seven globally recognised good practices for the analysis of data gathered during meetings, workshops, interviews, and selected

documents. The interview- and analysis guide contains specific questions that were applied during the data collection- and data analysis.

Document analysis procedures for theory evaluation

The document analysis template for the theory evaluation in Appendix E was applied as a template to determine which required mechanisms were put in place for the establishment of the programme.

Interview analysis procedures for the theory evaluation

The procedures for the interview data analysis for both the theory – and process evaluation questions- and sub- questions were the same and described here:

A template for the phases in the establishment of water stewardship was developed. Each phase contains the seven good practices extracted from the good practice model. The interview data was analysed in order to assess the extent to which each phase was establishment; in the case of the theory evaluation, and for the process evaluation to what extent implementation of the good practices were evident. The interviews were read and re-read for data that pertained to each of the phases in the establishment of the programme and the corresponding globally recognised good practice. This process was repeated for each interviewee and on completion of the fourteen, the data was aggregated into one final spreadsheet. Paragraphs from the interviews that contained data pertaining to each of the phases in the establishment of the programme as well as to the appropriate good water stewardship practices within the particular phase. The researcher considered a confirmation of a good water stewardship practice by a minimum of 30% of the interview participants to constitute a result. The interview data was often verified through triangulation with document analysis and workshop data.

The evaluation coding is described as “the methods that are customized for specific studies that are allocated sub codes to indicate the level of achievement” (Miles et al., 2014, p. 75). The authors give an example of when a + symbol before a code tag appears, then it indicates a positive evaluation. The evaluation coding for the UWaSP evaluation was similarly conducted, using colour coding for “achieved, in-progress or not-achieved” during the initial analysis done, using Microsoft Excel.

Miles et.al. (2014) state that it may be helpful to convert the data into magnitudes; - an approach followed during the theory evaluation when the coding was applied to the interview quotations to help sort the statements into achieved, not achieved or in-progress. Miles et al., (2014) cautions when numbers are allocated to words as it throws out the notion of the essential characteristics. Given that the UWaSP study is for the purpose of evaluation, the researcher considered it an acceptable analysis practice to organise the findings into magnitudes thus enabling the drawing of evaluation conclusions. In order not to lose the meaning and characteristics of words, the results were reported using interview excerpts and tables contained descriptions of the numbers, as recommended by Miles et.al. (2014), p. 79. instead of numbers or percentages. The theory evaluation sub-question relating to context made only use of classical coding of words to give the contextual explanations of the extent to which the UWaSP establishment was progressing or not.

The difference for the theory evaluation is that the more strategic quotations and answers by interviewee were extracted whereas the process evaluation was more focused on the implementation related quotations. Once all the data was extracted and analysed according to the good practices, the researcher selected interview quotations that were relevant to answer the theory evaluation question.

Analysis procedure for workshops generated data

The data analysis procedures for the data generated during the workshops with the broader forum and management steering committee was based on the ratings given by the workshop respondents for the water stewardship criteria. The responses by the three different sector groups were recorded on the facilitation boards and included in two workshop report. The criteria formulated by the workshop respondents corresponded with the international model and the linkages were made by the researcher. The same rating scale as for the interviews were used for the workshop analysis. Discussion items and comments made during the workshops that could be used as part of the discussion chapter or as input into the contextual influences required for the process evaluation sub-question 2, was recorded and contained in the workshop report.

Methods for the process evaluation

Procedures for the process evaluation

Interview- and workshop procedures for the process evaluation

The interview- and workshop procedures for the process evaluation are the same as for the theory evaluation and described in detail earlier in this chapter.

Document review procedure for the process evaluation

A requirement according to good practice, is that certain documents are developed at a given programme establishment phase. During every phase, different documentation would reflect certain processes that have been implemented during the particular phase or it would reflect that certain required procedures have been followed that are required for the establishment of the programme. A detailed list of documents required shown in Table 5, p. 46 and Appendix E contains an analysis template for the documents; using a rating scale: “document not found, document incomplete/in-progress, document complete”.

Analysis procedures for process evaluation

The procedures for the interview analysis for the process evaluation are the same as for the theory evaluation and are discussed earlier in this chapter.

Analysis procedures for the evaluation sub-question on contextual influences

In Chapter 2, the literature review guided the development of the interview guide and a structure for the analysis of the contextual elements that may play an influencing role in the establishment of a water stewardship programme. Appendix B was developed, based on the CEO Water Mandate guideline (2015) and contains guiding questions that supported the researcher to categorise the qualitative data accordingly. The interview – and workshop data were then analysed, using the two template tables that were created: one for enabling factors and one for inhibitors to the establishment of a local water stewardship initiative.

Ethical Considerations

Client permission

The researcher first sought permission from the GIZ's International Water Stewardship Programme (Appendix G) and UWaSP management steering committee to conduct the evaluation. The permission letter granted the researcher the right to conduct the evaluation as well as access information required during the evaluation process. This was in accordance to the requirements of the ethics framework of the Faculty of Commerce. The researcher then developed an evaluation proposal which was sent to the UCT Faculty of Commerce Ethics in Research Committee for approval.

Ethics clearance

The University of Cape Town Commerce Faculty Ethics in Research Committee formally granted permission to conduct the research (Appendix F).

Informed consent

All participants completed informed consent forms which were scanned and stored in the researcher's safe. An example is contained in Appendix H. The form describes the purpose of the research and explains the nature of the research.

The interview- and workshop participants were aware at the onset of the measures that their input is voluntary and that it would be recorded, anonymised and stored on the UCT online data storage facility.

Anonymity

The researcher has undertaken all measures to ensure that none of the participants could be identified in any of the transcriptions. Wherever interviewees referred to names of companies, civil society organisations or individuals, the names were removed.

Data Storage

Documents such as signed consent forms, interview transcripts and other raw data relating to the analysis, have been stored on the UCT database.

Declarations

The compulsory declaration, stating the following, is included as part of the submission of the dissertation and signed:

“This work has not been previously submitted in whole, or in part, for the award of any degree. It is my own work. Each significant contribution to, and quotation in, this dissertation from the work, or works of other people has been attributed, cited and referenced.”

Quality Assurance

Researcher’s role in the programme

The annual monitoring reporting for the International Water Stewardship Programme was conducted by the researcher as part of its international monitoring team conducting this process. The UwaSP programme was one of seven programmes that was reported on. During this process, the researcher identified the UwaSP as a research opportunity to evaluate the extent to which a local water stewardship programme in South Africa is established and implemented compared to globally recognised good water stewardship practice.

Application of a good practice model in research analysis

Given the focus of the study and the evaluation being based on a good practice model/ benchmarking as described during chapter 2, the qualitative analysis methods that are traditionally applied in evaluations, had to be adapted for this evaluation. In order to conduct the analysis, the researcher developed a conceptual framework for the evaluation as shown in Figure 4, p. 44.

The evaluation framework could be considered as similar to the conceptual framework described by Miles, Huberman & Saldaña (2014) and which directs the researcher in a way to be selective – to decide which variables are most important and what information should be collected and analysed. According to Miles et.al., (2014), no study conforms exactly to a standard methodology; each one calls for the researcher to bend the methodology to the uniqueness of the setting or case.

The credibility, dependability and replicability of the methods applied during the UwaSP evaluation was carefully considered to ensure that it conforms to a reasonable set of standards, as discussed by Miles et al., (2014). Thus, irrespective of certain adaptations to conventional analysis methods, the researcher strived for rigorous and consistency in data collection methods; measures such as focused interview schedules and sampling consideration. Balanced representation of all three relevant sectors was attempted and four stakeholders from public, five from the private and five from civil society sectors were interviewed. The former were discussed during this chapter and not further elaborated and the analytic practices that are usually applied across different qualitative research types as described by Miles et.al. (2014, p. 9) are discussed below to consider if the adaptive way in which it was applied; particularly the use of coding, conformed to good practice.

Instead of the more well-known coding methods such as in-vivo; a well-known qualitative coding that involve extracting participant action (Miles et al., 2014, pp.74-75), evaluation coding was applied. This form of coding which is the application of non-quantitative codes on to qualitative data that assign judgements about the merit or significance of programs (Miles et al., 2014, p. 75). The UWaSP's globally recognised seven good practices were the first cycle codes and the phases in which these practices occurred became the second cycle codes (Miles et al., 2014). The coding, in a way, prescribed the organisation of the data deductively and not the other way around whereby the content of the data would determine the coding. The researcher considered this a creative analysis approach in answering the evaluation questions. The assigning of codes to interview transcripts particularly during evaluation research, are discussed by Miles et al., (2014).

Conclusion

The methods for the UWaSP theory- and process evaluation was informed by the model of good water stewardship based on the Chapman (2014) framework. The chapter described the measures and procedures applied to collect data as well as the analysis that was conducted to obtain the evaluation results, which are discussed in the next chapter. Ethical considerations and quality assurance applicable to the evaluation were discussed during this chapter.

Chapter 4 Results

This chapter outlines the results of the theory- and process evaluation in two separate sections. Evidence to support the results such as quotations from interviews and workshop-input data, are used to illustrate the findings.

Results of theory evaluation

The emphasis for the theory evaluation is a consideration of the mechanisms which have been put in place in order for the programme to be established whereas the process evaluation results will focus on if and how these mechanisms have been implemented.

Overall results

Overall, UWaSP has been established according to globally recognised good practices at the end of the fourth phase (act). This implies that the required mechanisms for programme establishment have been put in place, yet not fully. The next section describes the findings of the evaluation.

Evaluation results for the seven globally recognised water stewardship good practices

Practice 1: Alignment to - and support to strengthen public policy that advances sustainable water management (CEO Water Mandate, 2015, p. 21)

Document analysis indicates a clear willingness by the stakeholders to engage in policy requirements and a process planned by which a Memorandum of Agreement/Understanding between the programme and the local government is established. There have been engagements planned between the key stakeholders to establish the key priorities of local government and which the policy documentation was accessed during the status quo report development. Processes to align with government strategic objectives within the broader framework of natural resources management were not fully established at the time of the evaluation. The interview analysis gave indications that UWaSP has the potential to access additional support in the form of international funding as well as governmental commitment on a higher level. The recommendation from one of the government stakeholder departments was to establish a communication channel to this effect. The following quotations confirm the potential for a

broader, more strategic positioning of UWaSP:

In response to the researcher/researcher's question regarding the length of time it took for the MoU to be signed:

“I think that's the big challenge that this water stewardship partnership faces is to get those in the contact with a high enough level within the municipality. What (national government department name deleted) say is that they will be more willing to meet on a one on one basis with another institution with one of the individuals. It is when there are a number of stakeholders in the meeting. that is when they tend to not want to meet. So that is where the water stewardship can play that role where they may be able to persuade them to do things where they are not prepared to make (a commitment) in the group” (Interviewee 8)

... “and so, I think that can always be addressed by look, by virtue of having an MoU (Memorandum of Understanding) with the institution and having broad themes linked into integrated urban development, natural resource planning, climate change, work related. It keeps it a bit, it keeps it broad and open ended. And the benefits thereof is that you don't, you don't strangle certain investors who would want to come in and partner or you don't exclude certain partners that are willing to come on board because that's what I find with a lot of foreign partners”(Interviewee 7)

At the time of this evaluation the results indicate that the final “scale and exit phase” has not yet been achieved. The development of a sustainability and exit plan for the programme has not yet been established, which according to globally recognised good practice, would be required during the early stages of establishment. A mechanism to engage with the strategic partners about the long-term future of the programme was not assessed.

The stakeholder representation at the meetings seem to lack attendance by community members.

Practice 2: Balanced representation of interest throughout the course of the programme (CEO Water Mandate, 2015, p .22)

Programme management planning which incorporates consideration of all stakeholders in the area through the local water-related forae is evident through an analysis of the stakeholder lists and visits conducted to promote the UWaSP. A formalised stakeholder mapping process was not in place at the time of the evaluation and stakeholder representation is being considered in

an informal way. Representation of the UWaSP at network meetings are required to conduct advocacy for the programme and formalised processes are in place. The required stakeholder platform is designed and structured to provide feedback and input by the stakeholders.

Practice 3: Be clear and transparent about the roles and responsibilities of water stewardship participants and ensure that their capabilities are adequate or sufficiently developed (CEO Water Mandate, 2015, p 23)

The letter of intent and programme annual financial monitoring data shows evidence of planning for operational expenses and financing of staff members. The staff members are employed by NBI and WWF and processes of these organisations included the development of roles- and responsibility descriptions. The partner organisations utilised its procurement processes which included the design and development of terms of reference for appointment of service providers to conduct studies and provide expert services. The intention to cooperate with stakeholders from all three sectors (public, private and civil society) was designed through a letter of agreement between the three sectors. Emphasis to engage with the local communities were incorporated in the programme planning.

Learning and capacity development of stakeholders were integrated in the programme plans. A system of establishment of learning and development of water stewardship awareness was informally established during the programme establishment's later phases and not from the onset.

Practice 4: Be clear and transparent about the water challenges being addressed by the water stewardship initiative and agreed scope and intended benefits (CEO Water Mandate, 2015, p. 24)

Data confirms that the establishment of this practice is achieved. A plan is in place to conduct a risk- and opportunity assessment to determine the status quo and needs requirements for the initiation of a collaborative water stewardship programme.

It is noted that formal processes to continuously assess the water challenges- and needs are not formalised.

Practice 5: Be clear and transparent about the governance of water stewardship initiative (CEO Water Mandate, 2015, p. 25).

There is clear evidence of this practice. A clearly designed governance structure exists that

outlines the conditions under which the partnership will operate and incorporates an operational and financial model. Governance procedures are in place to conduct the planning and design, stakeholder engagement, decision making and communication, financial management, and monitoring and evaluation of the programme. Getting these processes right is critical to ensuring that the water stewardship initiatives delivers on its objectives and serves the public interest. Other existent processes include reporting mechanisms to ensure accountability, the appointment of a management organisation for accountability, and legitimacy of the water stewardship initiatives.

Practice 6: Track outcomes against the stated objectives of the water stewardship initiative (CEO Water Mandate, 2015, p. 26).

A monitoring framework has been established and a plan of operation to track progress against targets and indicators has been developed. Clear reporting- and feedback mechanisms have been determined.

Practice 7: Foster an ethos of trust and establish expectations for behaviour of the water stewardship initiative's participants (CEO Water Mandate, 2015, p. 26).

There is evidence from interview and workshop data of explicit effort to build trust amongst key stakeholders, including a clearly articulated communication strategy. The programme managers schedule regular communication sessions and partnership platform feedback meetings per annum to engage on an interpersonal and collective basis with the stakeholders.

Conclusion

The above results provide evidence that UWaSP has been established according to globally recognised good water stewardship practice. The process evaluation results below provide evidence of the implementation of these good practices during the different phases of the programme.

Process evaluation results

Results for process evaluation question

Table 7, p. 63 provides an overview of the extent to which the UWaSP programme is being implemented according to the seven globally recognised good practices. It shows the extent to which these practices are being implemented during the different phases of the programme. The overall result is contained in the last row and indicates that the programme has been partially implemented according to the globally recognised good practices. An expanded description of the results follow the table.

The emphasis here is on the extent to which the programme has been implemented after establishment. In the theory evaluation, for example, the results show that a communication strategy has been developed and in the process evaluation, the results speak to the extent to which communication is actually taking place.

Table 7. Overview: Results for the implementation of all good practices during all phases (CEO Water Mandate, 2015, pp. 21-26)

No.	Globally recognised Good practice	Phase 1 Prepare	Phase 2 Assess	Phase 3 Commit	Phase 4 Act	Phase 5 Scale & exit
	Planned implementation of phases	2015-2016	2016-2017	2017-2018	2018-2020	2020-2021+
No.1	Align with, support and strengthen public policy that advances sustainable water management:	In Progress	In Progress	In Progress	Not achieved	Unable to evaluate
No.2	Ensuring appropriate and balanced representation of interests were achieved	Achieved	Achieved	Achieved	Ongoing	Unable to evaluate
No.3	Clarity and transparency regarding the roles and responsibilities of water stewardship participants. Adequate and sufficient capacity development to fulfil roles	Not achieved	Partially achieved	In-progress	In-progress	Unable to evaluate
No.4	Clarity and transparency regarding the water challenges being addressed, agreed scope and intended benefits	In progress	Partially achieved	Achieved	Achieved	Unable to evaluate
No.5	Clarity and transparency regarding stewardship initiative's governance	Not relevant for this phase	Achieved	Achieved	Achieved	Unable to evaluate
No.6	Track and report outcomes against stated objectives of the stewardship initiative	Not relevant for this phase	Partially achieved	Partially achieved	Partially achieved	Unable to evaluate
No.7	Foster an ethos of trust and establish expectations for behaviour of the water stewardship initiative's participants	Partially achieved	Partially achieved	Partially achieved	Partially achieved	Unable to evaluate
	Overall results across all Globally recognised good practices	Partially achieved	Partially Achieved	Partially Achieved	Partially Achieved	Unable to evaluate

Results for the implementation of the globally recognised good practices in UWaSP

Phase 1: “Prepare”

The data for the UWaSP’s “prepare” phase shows that the process of implementation of relevant globally recognised good water stewardship practices for this stage have been initiated. The analysis of the data confirmed that not all the relevant practices have been fully achieved and that some practices were not evaluable at the end of this phase. The results of the alignment to – support and strengthening of public policy in the advancement of water management (CEO Water Mandate, 2015, p. 21) are mixed (good practice no.1). A number of interviewees indicated misalignment between the policy that advances sustainable water management and implementation. The following interview quotations demonstrate the issue:

“We don’t have what I normally call progressive legislation. Our legislation is always waiting for somebody to do something wrong and then becomes punitive. We haven’t structured our legislation where people see the need to be supportive of the legislation than to actually duck the legislation ... “We never look at how we sustain the resources we have” (Interviewee 2). “...and for a long time, and as much as there was interface with the municipality, there wasn’t even an MOU. So, there were institutional gaps...” (Interviewee 7)

A balanced representation of interests (CEO Water Mandate, 2015,p. 22) was found to be achieved (good practice no.2). Evidence of this is observed in the implementation of a risk- and opportunity assessment. The review of documentation during this phase provided data that confirmed the concrete actions have been taken to initiate the development of partnership agreements which determine the needs and interests in the programme area.

Phase 2: “Assess”

The results for the “assess” phase show that UWaSP has been partially implemented according to globally recognised good practice for this phase. An example of a contributory process towards achievement is the participatory context analysis which was conducted as part of the status quo report and is considered an important documented output during this phase. Other examples include signed agreements such as the letter of intent, and the development of governance structures that were presented in the inception presentation. The following

quotation is provided as evidence of positive efforts to ensure balanced representation of interests (CEO Water Mandate, 2015, pp. 21-26) - good practice no.2, as well as clarity about the water challenges being addressed (CEO Water Mandate, 2015, p. 24); good practice no. 4.

“The formation of the partnership initially was quite collaborative and what should be focused on. There was extensive scoping at the beginning to understand the needs and interests of the stakeholders and the region and from an ecological management point of view.

There was a scoping – status quo report by (name deleted) and then also with the initial first steps there was broad participation from government and private sector. (Interviewee 13)

The management team’s roles as well as those of the management steering committee is clearly outlined in the governance structure. The finding of partial achievement is based on the fact that a stakeholder analysis was in-progress and a capacity assessment of the stakeholders had not been conducted. These are both globally recognised good practice requirements for implementation during this phase. The researcher was unable to find evidence that pertained to whether or not the programmes objectives and activities are fully aligned with public policy goals and objectives.

Phase 3: “Commit” phase

The results reflect a mix of achievements across the good water stewardship practices for this phase. It appears from the various data sources that strategic alignment with government priorities, has not been achieved. The document analysis revealed that the draft Memorandum of Understanding (MoU) with the key public sector stakeholder had not yet been approved by the local government authority and was reported to be in the municipal approval process. The existence of a signed MoU is a key implementation criterion for this phase to mandate operationalisation of projects during the “act” phase that follows.

The interviews provided some narrative of possible reasons why the MoA was delayed, these include slow municipal decision-making processes and long approval cycles. It could not be established if the municipality was engaged from the onset and on the appropriate level of decision-making. Some interview quotations that could not be included to protect the anonymity of participants, have inferred to underlying political processes that could play a role

in hindering progress.

The development of an exit strategy in collaboration with all stakeholders and aligned to the government's strategy, had not yet been initiated at the time of the evaluation. This is regarded as a good practice implementation action that should occur during this phase.

Practice no.3 that refers to clarity and transparency about the roles and particularly ensuring that the capabilities are adequate to fulfil these roles (CEO Water Mandate, 2015) ; has not been achieved and was evaluated as being in progress. A capacity assessment had not yet been conducted. The results indicate, however, that the management team and members from local government, civil society and the private sector, have been included in learning exchanges and capacity building seminars; which positively indicates activities towards capacitating key stakeholders.

Clarity regarding the water challenges, scope and intended benefits; good practice no.4 (CEO Water Mandate, 2015) has been achieved as part of the needs assessment processes that began during phase 1 (prepare). The projects were aligned to the challenges and needs of the stakeholders and regular feedback meetings- and workshops were held to ensure the process remained focussed.

Evidence from the document analysis and interviews reflect full functionality of the governance structure (CEO Water Mandate, 2015); good practice no.5. The review of documentation during this phase provided data to confirm that the partnership governance structures were functional. Evidence of this was located in the minutes of meetings of the programme management steering committee and platform. The analysis of attendance registers of meetings and interventions confirm a balanced representation of stakeholders from the three stakeholder groups.

The tracking of progress and transparent communication (CEO Water Mandate, 2015); good practice no.6) was achieved. Evidence of this was found in the existence of an operational plan as well as a draft monitoring plan. These plans indicate that the required systems and processes have been put in place. Tracking programme and project progress according to the overall water stewardship goals is central to globally recognised good water stewardship practices.

Open, transparent communication is evident. The workshop 1 reflections attests to this whereby participants indicated that communication is positive. Another example is programme's projects have been sufficiently justified and communicated to participants during the different stakeholder forum meetings. The budgeting in preparation of the development of business cases for the various projects was in early draft form and in-progress at the time of the evaluation. The project planning progress reports- and workshop data reflect that funding commitment for projects is not progressing sufficiently.

Phase 4: "Act" phase

The overall result for this phase is partial achievement. The globally recognised water stewardship best practice requirements during the "Act" phase emphasises implementation, progress monitoring and communication of progress. There is no consensus about the progress in this phase across the various data sources. Some data sources reflect achievements while others suggest the practices are in progress. The areas of non-achievement pertain to the alignment with, support of and strengthening of public policy. Similarly, representation of interest and water challenges, capacity building to fulfil roles, on the ground actions, and tangible project deliverables are not yet successfully achieved. The monitoring data- and project progress reports give evidence that most of the projects were not yet implemented and preparation is underway for implementation to commence. Table7 , p.63 shows the envisioned time frames for the different phases. Considering these broad time frames, the "Act" phase is supposed to commence during the second half of 2018. There is evidence of an expectation of implementation at an earlier stage.

Here are two illustrative quotations confirming the need for tangible projects:

"So far, it is that we've been doing everything at the boardroom as I was speaking to other colleagues that you know, now we need to go to site, we need to do something tangible, you know, we need it as much... We've done the paperwork with them, the policies and everything like the MOU, the reports and everything. And the council actually welcome the partnership with warm hands, and they were also very excited. So now they want to see something, happening on the ground now. So, I think now it is the time for us to start the ball rolling for the entire communities to see who is UWaSP, who is (Civil society names removed), who is the City – how does all this collaborate? The exposure to the brainstorming was amazing. We now have to have our own thing. We have seen what others have done, but now we have to do it ourselves.

(Interviewee 6)

“The lesson to be learned is that we are not out of the woods and climate change and that variability. that variability being such an unknown is that it just, it's, it's not going away. And it's imperative that we have a long standing partnership to deal with issues around water sources.”
...”Frame and start to frame now the actual work in a coherent way that will deliver on very tangible programs. Otherwise it could just exist, you know, even with the good intentions that it has and that way, there's also opportunities for better monitoring and evaluation if the project delivers on its objectives. (Interviewee 7)

Phases 1 – 4: Results for the over-arching good practice of trust building

Evidence indicates that trust relationships and open, transparent communication (CEO Water Mandate, 2015); good practice principle no.7, took time to develop amongst the steering committee members as well as the participants in the broader forum. Interviewees corroborated the understanding that trust building and transparent communication in collaborative management is an ongoing process. Encouragingly many of the interviewees acknowledged the importance of transparency and collaboration as well as confirmation that this has been developing progressively. Further evidence of this was found in the partnership forum workshop findings These findings confirmed that through the programme, change processes were underway and that silos were being broken down. There appears to be evidence of a move towards a more collaborative approach to water resource management (Fabricius and Currie, 2015) The workshop participants also confirmed that collaboration is excellent and that team work, meetings, sharing water risks and active membership engagement reflects a high level of trust. The following quotations illustrate this:

“The partnership, the forum, has managed to bring the municipality close to all the stakeholders, to the private companies and the communities based organisations We get to hear the perspectives of the companies. It has helped us get together, to share ideas, ...we now have that platform to raise our concerns and have that understanding of the other partners, and also the other partners get to understand the position of the municipality, the financial constraints ... yes, it gets shared there. Researcher : so, you are saying that stewardship creates an alliance between these sectors of society. Oh, yes...”(Interviewee 6)

“Yes, understanding context ... what are the contradictions, what are the constraints. Our

currency is about trust, relationships and transparency. And that is what (two staff member names removed) have done beautifully. They spent the last two years developing the relationships and the trust and transparency. Which is the foundation that you need to basically do our work”. (interviewee 12)

Phase 5: Scale and Exit phase

As outlined in theory evaluation results, this phase has not been established and hence cannot be evaluated for implementation.

Results for process evaluation sub-question

“What are the influences of contextual factors in the implementation of a local water stewardship initiative? “The analysis revealed a variety of enablers and inhibitors that span across the contextual factors.

Results for contextual enablers to the implementation of good water stewardship practices

Political context as enabler:

Data from the interviews show that the key aspect of the political context that is enabling the establishment of the initiative is advocacy and the convening role of the UWaSP management team. The results show that these political features seem to have enabled members from the different sectors to convene and collaboratively identify interventions.

The following quotation confirms the value of the convening role of UWaSP:

“I think for us from the public sector, we were very much impressed that the private sector is very aware of what is happening and is very keen to help us and wherever we needed help.”.(Interviewee 5)

Financial context as enabler:

The first phases of the establishment of UWaSP could not have been possible without the willingness of the partners to contribute financially; either in-kind or in cash towards the setting

up of the programme and to operationally manage it.

Cultural context as enabler:

There is evidence of support from traditional leaders and the importance of the programme to respect the traditional cultural values. Results indicate that obtaining buy-in from traditional leadership was necessary to enable some project- and initiatives to be successfully implemented. The following quotation confirms this:

“... you have to find the common ground between the Amakosi (the chief) and Indunas (that rules or govern the area). So sometimes when you want to implement a project, you need to get all those stakeholders together and to agree to whatever initiative it is that you are trying to bring to their area.... Also, on the issue of water – we also had a problem in allowing us to install water meters to his people as the municipality. So, there was that delay, but eventually I guess with the Mayors (they formed that forum now between the Amakosi and the council) so now the relationships are much better in the area. The other areas, the working relationship and the municipality was ok. And it is common ground that was needed. So far it is moving and operating smoothly.”(Interviewee 5)

Social context as enabler:

A key contextual finding was that the many programme staff were originally from the programme area and remained living in the area. Tapping into existing networks and understanding the context was emphasized as almost a pre-requisite for the successful establishment of the programme. Relationship building with the stakeholders and their families to develop trust relationships as is shown in the following quotation:

It is important for us to meet everybody and to not sort of trying to address issues that nobody wants to and also to understand the input they can provide to the partnership constitution really farmers are people on the ground. People see everything. That's important to meet their wives and to find out which dog is their favorite and have a conversation about their lives and we can build a relationship and when they have a water related issues the partnership; we (deleted names of project staff) should be the people that we should be the go to people for that. We should be their “go-to” people for water. I think that's what we have managed to achieve because we have built these relationships over the last 18 months”. (Interviewee 10)

Technical context as enabler:

An understanding of the technical challenge by the programme managers have been highlighted by some of the interviewees. This quotation emphasises this factor:

“particularly one of the staff members have worked in the industry during the last eight years. .. I think it is important that, if you have a similar collaborative water stewardship approach or what we call a landscape approach, and the landscape in this case being the catchment-based approach or relating to water as a resource and how it moves through the landscape. If you have any context like that, having a partnership initiative and the core drivers or secretariat of the partnership. they must be from that catchment. you have to know the context in different ways, you can’t learn it – you have to understand the context and have contacts to leverage on existing relationships.” (Interviewee 1)

Programme content as enabler:

An important contextual factor is the time frame of establishment and trust-building to enable the programme partners to identify projects and gain commitment. This could be an enabler and inhibitor, depending on the communication to stakeholders. At UwaSP, regular feedback sessions are held to keep stakeholders informed. Alignment to the priorities in the sector and related sectoral priorities within government is an enabler but could become an inhibitor as illustrated by the following quotation

: “But there needs to be an alignment in terms of what municipality is doing at local level, district level at times it provincial though, but really our focus has been on local and district(level). On issues of sustainability there are some core principles that we all need to comply with or consider in planning, in execution and in thinking about projects in this whole social economy - it is a huge project”. It is likewise considered important to align the programme to the needs of the private sector and the economic priorities in the areas.” (interviewee 11)

Political context as inhibitor:

Interview results speak to a variety of inhibitors, these include sensitive concerns around

governmental capacity, slow decision-making processes and the right level of representation at the forum. The most important inhibitors inhibiting implementation from establishment phase 3 (commit) to phase 4 (act), was the long municipal cycles and effects thereof on the approval of the Memorandum of Agreement between UWaSP and the local government.

Financial context as inhibitor:

The results indicate that there could have been more strategic alignment to the priorities of government, particularly to other environmental strategies within government. One of the interviewees implied that this under-alignment could have played a role in the slow process of approval of the MoA. Some interviewees referred to what they called “funding competition”. This means that the legislative requirements to support water related interventions are given first priority by companies and only thereafter do these organisations prioritize the water stewardship initiatives planned by UWaSP which are not required by legislation.

Capacity development and learning contextual inhibitors:

Community involvement in capacity development and job creation was both an inhibitor and enabler of the program establishment. The extent to which stewardship is promoted and developed would influence the sustainability component of UWaSP. The data indicated that stewardship adoption within the municipality has not yet fully taken place and that there is a high need for capacity building in this regard.

Conclusion

The results for the theory evaluation is “achieved” which implies that the UWaSP programme has been established according to globally recognised good water stewardship practices. The process evaluation overall results showed that the UWaSP programme implementation according to these practices are “not achieved” and in-progress. There were contextual enablers and inhibitors to the programme implementation that were reported during this chapter. These results will be discussed during the next chapter.

Chapter 5 Discussion

This chapter provides a discussion of the results reported in Chapter 4 followed by consideration of the study's limitations, potential future research and conclusions.

Theory evaluation discussion of results

The focus of the theory evaluation question was to determine if UWaSP has been established according to the globally recognised good practice for water stewardship programmes. Recommendations to strengthen the programme theory are discussed at the end of this chapter.

The overall results of this evaluation suggest that UwaSP as a collaborative water stewardship programme (Fabricius and Currie, 2015) has partially met the globally recognised water stewardship practices for the establishment of a good water stewardship programme. The programme was, at the time of the evaluation, in its fourth phase of establishment, called the “act” phase (IWaSP, 2015). The findings of the last phase of establishment namely “scale and exit”, could therefore not be fully evaluated (<https://ceowatermandate.org/wraf/phase-5-scale-exit/>). However, the effective completion of this final exit phase of establishment, requires that an exit or scaling-up mechanism is planned from the onset and this was not yet achieved. One of the key elements of stewardship sustainability is the early development of an exit strategy. It is recommended in the CEO Water Mandate (2015) literature that an exit strategy should be established early and jointly with the partners to ensure ownership by the local stakeholders. Exiting is often difficult because of beneficiary expectations of the benefits and it is therefore advisable to have upfront agreed procedures in place. An exit strategy during the early phases outlines and confirms expectations, shared understanding of programme constraints and allow for early capacity building initiatives (CEO Water Mandate, 2015 b, p. 2). This mechanism is a requirement for sustainability according to international good practice. In the South African landscape , this approach could build mistrust if raised during the beginning phases of a programme. The literature shows that within a South African context, trust building is a long process that has to be given care (Meissner et a., 2016). Strategic adaptive management is a key component and foundation for a cooperative environment to promote sustainable development in Water Management Areas.

There is evidence that the MoU process finalization was slow because of a lack of engagement with the Municipality at the onset of phase 1. A communication mechanism to engage with all

the relevant departments of local government that address climate change and natural resources was not established from the onset.

It could not be established what planning processes and procedures were in place to engage with all the stakeholders. The low representation of community members on the partnership platform that takes place quarterly raises questions about representation.

The South African literature on the establishment of IWRM and particularly CMA's, show that establishment processes require high levels of skills and capacity and that stakeholder engagement processes are of utmost importance to its success (Meissner et al., 2016). Mechanisms to engage with stakeholders during the different phases of the establishment of the programme , assessment of capacity of the stakeholders and key partners as well as capacity building interventions, would require a more explicit, planned approach.

Process evaluation discussion of results

The overall results for the process evaluation indicate that the process of programme implementation is in progress and that UWaSP is not fully implemented across the good practices in all the phases. Recommendations to improve the implementation of the programme are discussed in a separate section towards the end of this chapter. The process evaluation results show that, although mechanisms for the establishment of a water stewardship are in place, it needs to guide implementation and not be implemented in a rigid way.

Trust-building, communication and transparency; was an over-arching practice that progressed from the first phase and was continuously developing as the programme establishment developed (CEO Water Mandate, 2015).

According to the globally recognised good water stewardship practices evaluation model the programme establishment develops over time during different progressive phases (Newborne & Dalton, 2016) through the practice of good stewardship principles; which in turn enables the implementation of these practices and ultimately the achievement of project outcomes. The results for the different phases are discussed below:

Phase 1: The implementation of good practices for the “Prepare phase” has been partially achieved and is in-progress

The commitment from the industry partners and general realization of the co-dependency (Fabricius & Currie, 2015) to solve the 2014 drought crisis was a contextual enabler and motivator that gave momentum during this start-up phase. Commitment by the public sector

partners to continuously engage and participate in the UWaSP platform meetings and learning events is a positive signal that the needs of the government - and private sector stakeholders in particular, have been observed (CEO Water Mandate, 2015). The programme objectives were found to be aligned to the relevant public policy goals and objectives that advances sustainable water management (Newborne & Dalton, 2016). It was found that the programme would obtain wider funding support should this alignment include broader strategies of government that addresses climate change, renewable energy (National Climate Change Response, 2012) and other natural resources objectives (Newborne & Dalton, 2016).

Phase 2: The implementation of good practices for the “Assess phase” has been partially achieved and is in-progress

The continuous engagement of stakeholders during various contact initiatives by the programme management as well as an understanding of the socio-economic and technical challenges of the area (CEO Water Mandate, 2015) were found to be contextual enablers during all the phases of establishment. A key enabler was that programme representatives and staff were indigenous to the local community (CEO, 2013). A detailed mapping of stakeholders and interests have not been conducted and is a good water stewardship practice requirement (IWaSP, 2015; CEO Water Mandate, 2013). The absence of a thorough, formalised stakeholder analysis process is a concern, particularly as the community seems to be under-represented during the stakeholder platform meetings.

Phase 3: The implementation of good practices for the “Commit phase” has been partially achieved and is “in progress”

The implementation of most of the good practice criteria for this phase was found to have been achieved, although most responses reflected partial achievement. This illustrates that the establishment criteria are not necessarily a reflection of the reality on the ground. The delays in signing of the MoA between the key partners, is of concern as this agreement is essential for project planning- and implementation (IWaSP, 2015 as cited in Newborne & Dalton, 2016). The reasons for this delay would require deeper exploration, but some findings pointed at a need for more regular communication to ensure alignment to the broader government strategies and concerns regarding the institutional arrangements at the exit stage to ensure continuation- and sustainability.

The slow progressing of budgetary commitment to projects could not be sufficiently explored

to make accurate factual conclusions. The researcher's observations are, in addition to the statements by interviewees are that there are too many projects identified and changing of projects that were originally identified towards the end of the planning phase. This could be reflection that the programme has to re-direct its focus to comply with availability of funds. As is seen in the next phase discussion, lack of funding commitment affects the programme's results (Meissner et al., 2017). CMA's receive seed funding from Government and has financial powers to enter into contracts, open a bank account and borrow money. UWaSP however, does not to-date receive any direct government funding. It therefore fully relies on donor-funding and financial contributions from the private sector, making it vulnerable and project implementation challenging.

Phase 4: The implementation of good practices for the "Act phase" has been partially achieved and is "in progress"

The results reveal that there was a certain expectation expressed by the stakeholders to start seeing "results on the ground" during the "commit" phase (CEO, 2015). This is perhaps an unrealistic expectation. While there is evidence that the programme management regularly communicated the status of initiatives or projects the fact that there were still unrealistic expectations suggests that the communication was not optimally effective (CEO, 2013). It seems that more opportunity for "process" feedback and reflection regarding the establishment and implementation challenges facing UwaSP was required.

Discussion of the enablers and inhibitors to successful establishment and implementation of UWaSP

The process evaluation research question addresses the contextual factors that played a role in the implementation of the UWaSP programme. During the evaluation, it emerged that there are internal as well as external inhibitors and enablers to programme establishment and implementation and not only externalities, which are variables that mostly lie outside the partnership network (Plummer, 2009 as cited in Chapman, 2014). This is, according to the Chapman's (2014) model of adaptive co-management programmes, part of the internal and external moderating processes that influence good water stewardship capacity. The internal moderating influencers play a role in the extent to which the globally recognised good water stewardship practices are established as well as implemented.

Internal influences

UWaSP displays many of the required qualities of an adaptive co-management programme (Carlsson and Berkes 2005, Armitage et al.2009 in Fabricius and Currie, 2015). The UWaSP's programme description shows some extent of similarity to adaptive co-managed natural resources management programmes in that it consists of role players with a high level of interdependence (Ansell and Gash 2007 in Fabricius and Currie, 2015). The partners of UWaSP demonstrate a high level of commitment from different parties from all three sectors: civil society, private sector and government. This is evident in high numbers of attendance of partnership platform meetings and participation. However, there seems to be a greater need to further engage with community stakeholders and other potential partners and water users, although this does take place during the municipal Integrated Development Planning processes

The UWaSP programme is considered to play a convening role in the area, bringing all stakeholders together. Given the socio-economic and political challenges in the area, there is a high need for the private and public sector to communicate and express their expectations in an open, trusting manner. The UWaSP programme is considered a "safe space" in which collaboration around a common concern and interest fostered. The programme managers have been the key enablers to build trust relationships by being sensitive to the needs of the different partnership representatives. Their understanding of the technical challenges as outlined in the Status Quo report and political climate (CEO Water Mandate, 2015) has played a positive role in identifying and directing project planning, alignment and implementation planning. However, they are faced with challenges by certain role players and their expectations of results. The balance and management of expectations as part of the trust building is an on-going process that has been facilitated by the programme and has been shown in the high level of commitment, participation and engagement.

The water stewardship good practices that were already inherent in the existing models of the international development and civil society partners enabled the establishment of UWaSP according to globally recognised good practice. The Water Risk Action Framework of the IWaSP that contains templates and tools to establish agreements, plans, systems and processes is an example of this (Newborne & Dalton, 2016).

Development organisations such as the WWF, the GIZ and DIFD have been supportive of the UwaSP from its early inception. These organisations have worked closely with strategic role

players such as the CEO Water Mandate and AWS in the water stewardship domain world-wide and had brought frameworks, systems and processes into the programme initiation, conceptualization and planning. In addition, the WWF has well-established partnerships with the private sector in the UWaSP area and brought with it a good reputation in natural resources management. These partners, although they are distinctly different organisations, have certain governance principles in common (AWS, 2014, p. 9) as was seen during the literature review. These commonalities served to direct the programme establishment and implementation in alignment to the established good practices, systems and processes with which these organisations have been working within the water – and natural resources environment.

The literature on adaptive co-management systems in natural resources indicates that social learning is an important component of adaptive co-management, Keen, Bruck & Dyball (2005) as cited in Cundill & Fabricius (2009) refers to social learning that occurs when collective action and reflection takes place within individuals and groups when they work together in social- and ecological systems. Ongoing reflection that takes place and is used to stimulate further learning (Dyball et al., 2007) is termed reflexivity. This, according to Keen et al., (2005), entails continuous reflection on ideas and actions. Keen et al., (2005) developed a framework to link the relationships between knowledge, behaviour and values. The emphasis here is that the individuals and groups reflect on the programme's actions, objectives and outcomes as well as on the learning that takes place. Collaborative monitoring as proposed by Cundill & Fabricius (2009) has the potential to integrate learning based approaches in adaptive co-management. The integration of social learning into the programme monitoring of UWaSP as suggested by Chapman (2014) is one of the cornerstones of the WWF monitoring and learning approach (WWF, 2013). Learning and knowledge sharing has been implemented by UWaSP, however, there is not a formalised mechanism in place that integrates the social learning with the UWaSP monitoring, apart from early indications expressed by a few interviewees that more formalised training in water stewardship is in planning, ⁶Capacity building initiatives have so far taken place on an ad hoc basis, without a prior needs analysis.

The building of positive relationships amongst stakeholders was found to be a positive enabler towards the establishment of UWaSP. A mechanism to foster trust has not been explicated and although the partnership platform provides feedback opportunities, the trust building

⁶ Capacity building incorporates formalised and unformalized training,

mechanisms (Folke et al., 2005) resides in the programme managers' ethos, values and ways of engaging with the stakeholders. Trust building is a subtle process that takes time and requires continuous nurturing of relationships.

External influences:

Networks with the potential of providing financial support required for its initiation and establishment. This is considered an establishment mechanism and pre-condition for the starting of any collaborative water stewardship programme (Fabricius and Currie, 2015) The researcher found that having access to initial seed funding to initiate the establishment of a local collaborative water stewardship programme, needs to be made more explicit A mechanism to fulfil the role of funding manager and convener is therefore a pre-condition for the successful establishment of a water stewardship initiative. In the case of UWaSP, a key partner is the National Business Initiative (NBI) that has well-established relationships, networks and a positive reputation amongst the private sector, government and civil society not only locally, but also globally. The NBI manages the UWaSP's funding and fulfils the role of convener. The initial funding commitment from the development- and civil society partners, together with the anchor partners from the private sector, has enabled the UWaSP's establishment during a critical time of water scarcity during the drought that started during 2014 (Status Quo report).

UWaSP has not yet entered its last phase, and a sustainability strategy that includes an exit or scaling up mechanism, is not in place. The positioning of the UWaSP within the larger context of adaptive co-management of natural resources is an important part of the programme's sustainability, according to the findings. The results show that, although the mechanisms have been in place for the programme to align with, support and strengthen public policy, there is no mechanism in place to re- position UWaSP to align to the local government's contribution towards the South African National Climate Change Response Strategy (2018) or the National Energy Efficiency Strategy (2015). This issue was highlighted during the interviews by the government partners and positioned as an opportunity for UWaSP to become a role player in this area; particularly that UWaSP has a positive profile in the area of uMhlatuze could be utilised to broaden its focus.

The findings confirm that the perceived urgency by all parties about water scarcity is the catalyst to initiate collective action. This collective action in the form of a water stewardship

initiative is envisioned to drive the required changes to address the problem or need (Rossi et al., 2004). The successful establishment of UWaSP is partly attributable to its appropriate response to this need. Enabling influences that have been highlighted throughout the evaluation during the interviews and workshops were the political will of the role players to cooperate towards the common goal to mitigate and alleviate the challenge of water scarcity. It has been pointed out that the drought in the area, however negative its impact, had played a positive role in bringing the people together to collaborate towards solutions as there is shared risk of drought to the local economy and an exchange of resources (Carlsson and Berkes, 2005 in Fabricius and Currie, B., 2015).

The traditional leadership in the uMhlathuze area is primarily represented in the Ngonyama Trust in Kwa Zulu Natal (City of Umhlathuze, 2018). Honoring the role of traditional leadership in the area plays a pivotal role when initiatives are planned and being implemented (The process of collaboration with traditional leaders and communication has been emphasized as an enabling factor, and at the same time a high risk if its role is not regarded and honored. Water has a spiritual and cultural value in an African context and is not only of importance socially and economically (Zenani and Mistri, 2005, as cited in Kapfudzaruwa & Sowman, 2009). In the UWaSP programme area, there is still a strong body of traditional leaders and healers whose services play an important role in their communities and management of natural resources (Kapfudzaruwa and Sowman, 2009). In this context water is regarded as a communal resource pool. The management of water is also informed by customary rules that form part of a complex system of traditional governance. A research paper by In Kapfudzaruwa & Sowman (2009, p. 684) outlines the legislative framework guiding water management in rural settings. They conclude that, although the National Water Act (1998 s3(1)) of South Africa provides for structures to create more equitable and participatory systems of water use and management, they conclude that there are not yet adequate mechanisms provided for the consideration of traditional governance systems in the new post-apartheid dispensation for water management in South Africa. The Traditional Leadership and Governance Framework Act (RSA, 2003) also does not legally bind local government to involve traditional leaders in water management, other than promoting partnerships based on mutual trust- and respect between municipalities and the traditional leadership (Kapfudzaruwa & Sowman, 2009). Traditional authorities are respected and trusted within their communities. The UWaSP as partners of the local municipality, need to take cognisance of the role of traditional governance systems as an important link to the community in which the programme operates. It is furthermore important

to understand how water is regarded, accessed and used in traditional community settings to ensure that projects and conservation efforts are aligned to and respect their traditional practices (Kapfudzaruwa & Sowman, 2009.p 688).

Study limitations and recommendations for future studies

There were a limited number of interviewees of 14 participating in the evaluation compared to the number of members of the broader UWaSP platform, which consists of approximately 35 members. It would have been ideal to include a larger number of participants during the interviews, but due to time constraints and the management stating that the participants have been exposed to other research- and knowledge sharing events, the numbers had to be limited.

The limited scope and time frame of the evaluation has necessitated the exclusion of project implementation processes (Gautier, 2018). An outcome evaluation is therefore recommended within a year after the process evaluation to establish progress towards the programme outcomes and an interim monitoring of outputs to ensure timeous feedback to the stakeholders regarding concerns about “lack of implementation” as stated by some interviewees.

Recommendations

The following programme theory recommendations for consideration by the UWaSP management committee and programme management staff, have emerged from this research to strengthen the programme theory and improve programme processes and implementation.

Programme theory recommendations

An additional mechanism to ensure that there is a continuous assessment of the needs of the stakeholders and a formalised stakeholder mapping process is recommended. Water stewardship needs to be considered as part of a larger natural resources context and follow-up needs assessment mechanisms is recommended to ensure that the programme alignment is relevant and needs focused.

A knowledge capturing- and dissemination of learning mechanism would be of benefit to capture the knowledge of established globally recognised approaches to water stewardship (Folke et al., 2005), as already mentioned as a recommendation during the workshops.

A networking mechanism for the up-scaling of UWaSP as a natural resources programme, is recommended and to share learning and funding models.

The recommendations based on the sustainability mechanisms would be beneficial to further safeguard continuation of the UWaSP and potential up-scaling of the approach are discussed below:

The risk of funding continuation is not unique to UWaSP and learning from other, similar collaborative initiatives is recommended. The value proposition and business case development requires a targeted approach and a mechanism to develop capacity and sharing of knowledge

The alignment of the UWaSP to the larger agenda on climate and energy in order to secure funding and commitment within the broader municipal strategy is recommended. This was highlighted during the interviews by the government partners as an opportunity for UWaSP to become a key role player in this realm because of its high profile in the area within which it operates. Although this approach could form part of its implementation processes, it was mentioned by some interviewees that a more strategic approach is advisable and therefore, exploration of a specific mechanism is recommended to encourage engagement with government to further broaden the alignment processes to the local government and its internal strategic processes.

It was mentioned in the theory evaluation that learning and knowledge sharing is being implemented, but on an ad-hoc basis. A system of establishment of learning and development of water stewardship awareness was informally established and although it is not a fully specified practice for good water stewardship, a mechanism to capture learning and develop a knowledge basis is, according to adaptive co-management systems, an important sustainability factor, as was discovered during the literature review (Folke, Carpenter, Elmqvist, Gunderson, Holling & Walker (2002); Cundill & Fabricius (2009).

The final recommendations is related to trust building and in the words of many of the management steering committee members, more opportunities should be intentionally created for partners to gather and get to know each other. Thus, creating a mechanism to consciously build a community of practice (Folke et al. ,2005)

Programme process recommendations

A more formalised communication channel with the planning unit of local government is suggested, above the current status of meetings on a need basis with the purpose of developing strategies to align the UWaSP planning to the broader strategies of government.

The researcher suggests a workshop to conduct a stakeholder mapping exercise and an opportunity to revisit the different interests of stakeholders, roles and responsibilities.

The programme would benefit from an updating of the original status quo report, to ensure that the programme remains relevant and addresses the key needs of stakeholders. A focus on a few, rather than many long - term priority projects and the identification of a few short-term projects that will demonstrate action and implementation.

The scope of the evaluation could not provide for a monitoring of project implementation as originally envisaged. An outcome evaluation is proposed within the near future to evaluate project progress contained in the programme monitoring plan against the output and outcome indicators. This would give a full picture and relationship between the programme and the water users' practices that affect the state of the river.

Final conclusions

The evaluation purpose was formative for the current programme and informative to natural resources collaborative management systems with other regions in Africa and development countries with similar challenges . The theory evaluation results show that the seven global practices of good water stewardship have been established by/in UWaSP . Similarly , the process evaluation results show that the seven practices of good water stewardship are progressing towards implementation and some practices have already been fully implemented at the appropriate phase designated for implementation . Most of the good practices have been initiated during either one of the establishment phases which indicates that there is to some extent and intention and process underway towards full implementation of these practices.

The funding commitment for project implementation is a concern as flagged by some of the stakeholders. This could be a barrier to development and disappointment of stakeholder expectations. Adaptive co-management practices could be further explored to provide a more

structured framework to track and stimulate learning.

The conceptual framework that was applied for the evaluation has contributed towards clearly distinguishing between the establishment of the programme (theory evaluation) and the implementation of the programme (process evaluation) according to the good water stewardship practices (internalities) as well as the positioning of contextual influences (externalities). The UWaSP was an ideal evaluation case in which the Chapman (2014) model could be successfully applied for both a theory- as well as process evaluation.

References

- Adams, W. M., Aveling, R., Brockington, D., Dickson, B., Elliott, J., Hutton, J., & Wolmer, W. (2004). Biodiversity conservation and the eradication of poverty. *Science*, 306(5699), 1146–1149.
- Ansell, C., & Gash, A. (2008). Collaborative governance in theory and practice. *Journal of public administration research and theory*, 18(4), 543-571. Doi: [10.1093/jopart/mum032](https://doi.org/10.1093/jopart/mum032)
- Ashton, P.J., 2007. The role of good governance in sustainable development: implications for integrated water resources management in Southern Africa. In: Turton, A.R., Hattingh, J., Maree, G.A., Roux, D.J., Claassen, M., Strydom, W. (Eds.), *Governance as a Dialogue – Government-Society-Science in Transition*. Springer-Verlag, Berlin, pp. 78–96.
- Armitage, D. R., Plummer, R., Berkes, F., Arthur, R. I., Charles, A. T., Davidson-Hunt, I. J., & McConney, P. (2009). Adaptive co-management for social–ecological complexity. *Frontiers in Ecology and the Environment*, 7(2), 95-102. Doi: [10.1890/070089](https://doi.org/10.1890/070089)
- AWS (2014), ‘The AWS International Water Stewardship Standard’, version 1.0, April 8th, 2014, Alliance for Water Stewardship.
- Bellamy, J. A., Walker, D. H., McDonald, G. T., & Syme, G. J. (2001). A systems approach to the evaluation of natural resource management initiatives. *Journal of environmental management*, 63(4), 407-423. Doi: doi.org/10.1006/jema.2001.0493
- Bos, J. J., Brown, R. R., & Farrelly, M. A. (2013). A design framework for creating social learning situations. *Global Environmental Change*, 23(2), 398-412. Doi: [10.1016/j.gloenvcha.2012.12.003](https://doi.org/10.1016/j.gloenvcha.2012.12.003)
- Campbell, B., Sayer, H., Frost, P., Vermeulen, S., Perez, M. R., Cunningham, A. B., & Prabhu, R. (2001). Assessing the performance of natural resource systems. *Ecology and Society*, 5(22), 321–340. Doi: [10.1079/9780851997315.0267](https://doi.org/10.1079/9780851997315.0267)

Carlsson, L., & Berkes, F. (2005). Co-management: Concepts and methodological implications. *Journal of Environmental Management*, 75, 65–76. Doi: [10.1016/j.jenvman.2004.11.008](https://doi.org/10.1016/j.jenvman.2004.11.008)

CEO Water Mandate (2015a). Guide for Managing Integrity in Water Stewardship Initiatives: A Framework for Improving Effectiveness and Transparency. Retrieved from <https://ceowatermandate.org/resources/managing-integrity-water-stewardship-initiatives-2015/>

CEO Water Mandate(2015b) Tool 12: Developing an Exit Strategy in Guide for Managing Integrity in Water Stewardship Initiatives: A Framework for Improving Effectiveness and Transparency. Downloaded from <https://ceowatermandate.org/files/iwsi/Tool12.pdf>

CEO Water Mandate, Guide to Water-Related Collective Action (September 2013), <http://ceowatermandate.org/wp-content/uploads/2013/09/guide-to-water-related-ca-web-091213.pdf>.

CEO Water Mandate, Water Integrity Network, GIZ, Water Witness International, BPD and Pegasys (2014). ‘Building the impact and integrity of water stewardship initiatives - Case Study Synthesis Report’, May 2014, Retrieved from <https://ceowatermandate.org/resources/managing-integrity-water-stewardship-initiatives-2015/>

CEO Water Mandate. November 2010. Guide to Responsible Business Engagement with Water Policy. Retrieved from http://ceowatermandate.org/files/Guide_Responsible_Business_Engagement_Water_Policy.pdf.

Chapman, S. (2014). A framework for monitoring social process and outcomes in environmental programs. *Evaluation and program planning*, 47, 45-53. Doi: [10.1016/j.evalprogplan.2014.07.004](https://doi.org/10.1016/j.evalprogplan.2014.07.004)

Chen, H. T. (1990). *Theory driven evaluations*. Newbury Park, CA: Sage.

City of uMhlathuze. 2018. Guideline document : Submission of land development applications in traditional settlement areas in terms of the Umhlathuze Spatial Planning and Land Use Management by Law, 2017. Downloaded: <http://www.umhlathuze.gov.za/images/PDANotices/x50309-1.pdf>

Clark, J. R. A., & Clarke, R. (2011). Local sustainability initiatives in English National Parks: What role for adaptive governance?. *Land use policy*, 28(1), 314-324. Doi: [10.1016/j.landusepol.2010.06.012](https://doi.org/10.1016/j.landusepol.2010.06.012)

Conley, A., & Moote, M. A. (2003). Evaluating collaborative natural resource management. *Society & Natural Resources*, 16(5), 371–386. Doi: [10.1080/08941920309181](https://doi.org/10.1080/08941920309181)

Cronbach, L. J., Ambron, S. R., Dornbusch, S. M., Hess, R. D., Hornik, R. C., Phillips, D. C., & Weiner, S. S. (1980). *Toward reform of program evaluation* (p. 3). San Francisco: Jossey-Bass.

Cundill, G. (2010). Monitoring social learning processes in adaptive comanagement: Three case studies from South Africa. *Ecology and Society*, 15(3). (page numbers) Doi: [10.5751/ES-03467-150328](https://doi.org/10.5751/ES-03467-150328)

Cundill, G., & Fabricius, C. (2009). Monitoring in adaptive co-management: toward a learning based approach. *Journal of Environmental management*, 90(11), 3205-3211. Doi: [10.1016/j.jenvman.2009.05.012](https://doi.org/10.1016/j.jenvman.2009.05.012)

Cundill, G., & Fabricius, C. (2010). Monitoring the Governance Dimension of Natural Resource Co-management. *Ecology and Society*, 15(1). doi: [10.5751/ES-03346-150115](https://doi.org/10.5751/ES-03346-150115)

De Groot, R. S., Alkemade, R., Braat, L., Hein, L., & Willemsen, L. (2010). Challenges in integrating the concept of ecosystem services and values in landscape planning, management and decision making. *Ecological Complexity*, 7(3), 260–272. Doi: [10.1016/j.ecocom.2009.10.006](https://doi.org/10.1016/j.ecocom.2009.10.006)

Donaldson, S. I. (2003). Theory-driven program evaluation in the new millennium. In S. I. Donaldson & M. Scriven (Eds.) *Evaluating social programs and problems: Visions for the new millennium* (pp. 111-142). Mahwah, NJ: Erlbaum.

Donaldson, S. I., & Lipsey, M. W. (2006). Roles for theory in contemporary evaluation practice: Developing practical knowledge. *The handbook of evaluation: Policies, programs, and practices*, 56-75.

Folke, C., Carpenter, S., Elmqvist, T., Gunderson, L., Holling, C. S., & Walker, B. (2002). Resilience and sustainable development: building adaptive capacity in a world of transformations. *AMBIO: A journal of the human environment*, 31(5), 437-441. Doi: 10.1579/0044-7447-31.5.437

Folke, C., Fabricius, C., Cundill, G., Schultz, L. (2005). Communities, ecosystems and livelihoods. *Ecosystems and human well-being: multiscale assessments*, 4, 261–277.

Funke N, Nortje K, Findlater K, Burns M, Turton A, Weaver A and Hattingh, H (2007) Redressing inequality: South Africa's new water policy. *Environment* 49 (3) 12–23.

Funke N., Oelofse, S.H.H., Hattingh, J., Ashton, P.J. and Turton, A.R., (2007) IWRM in developing countries: lessons from the Mhlathuze catchment in South Africa. *Phys. Chem. Earth* 32 (15–18) 1237–1245.

Gautier, E. (2018). *Making it work, Together: Sustainable Project Planning and Management*. Publication in-progress by the Department of Cooperative Governance. www.cogta.gov.za

Hassing, J., Ipsen, N, Jønch Clausen, T., Larsen, H and Lindgaard-Jørgensen (2009), 'Integrated Water Resources Management in Action', Dialogue Paper, The United Nations World Water Assessment Programme, UNESCO 2009.

Helgason, S. (1997) International Benchmarking Experiences from OECD countries: paper presented at a conference by the Danish Ministry of Finance on International Benchmarking, Copenhagen, Organisation for Economic Co-operation and Development Public Service Management

Huitema, D. and S. Meijerink 2017. The politics of river basin organizations: institutional design choices, coalitions, and consequences. *Ecology and Society* 22(2):42. Retrieved on 29 June 2019 from <https://doi.org/10.5751/ES-09409-220242>

Innes, J. E., & Booher, D. E. (1999a). Consensus building and complex adaptive systems. *Journal of the American Planning Association*, 65(4), 412–423. Doi: [10.1080/01944369908976071](https://doi.org/10.1080/01944369908976071)

Innes, J.E., & Booher, D. E. (2000). Indicators for sustainable communities: a strategy building on complexity theory and distributed intelligence. *Planning theory & practice*, 1(2), 173-186.

Iyyanki V. Muralikrishna, Ivyanki,V., Manickam, V. (2017) Environmental Management: Chapter 3, Natural Resource Management and Biodiversity Conservation, Butterworth-Heinemann, 23-25, [doi: 10.1016/B978-0-12-811989-1.00003-8](https://doi.org/10.1016/B978-0-12-811989-1.00003-8).

IWaSP (2015), ‘The International Water Stewardship Programme’, Status, April 2015, IWaSP c/o GIZ.

Kapfudzaruwa, F., Sowman, M.(2009). Is there a role for traditional governance systems in South Africa’s new water management regime? Department of Environmental and Geographical Science, University of Cape Town, Water SA Vol. 35 No5 October 2009. Downloaded from <http://www.wrc.org.za>

Keen, M., Bruck, T., Dyball, R., 2005. Social learning: a new approach to environmental management. In: Keen, M., Brown, V., Dyball, R. (Eds.), *Social Learning in Environmental Management: Towards a Sustainable Future*. Earthscan, London, pp. 3–21.

Lipsey, M. W. (1993). Theory as method: Small theories of treatments. *New Directions for Program Evaluation*, 57, 5-38.

Lucid Chart [Computer Software]. 2019. Retrieved from: <http://www.lucidchart.com>

Meissner, R. (2004) The transnational role and involvement of interest groups in water politics: A comparative analysis of selected Southern African case studies. DPhil Thesis, University of Pretoria.

Meissner R., Stuart-Hill S., Nakhooda Z. (2017) The Establishment of Catchment Management Agencies in South Africa with Reference to the Flussgebietsgemeinschaft Elbe: Some Practical Considerations. In: Karar E. (eds) *Freshwater Governance for the 21st Century*. Global Issues in Water Policy, vol 6. Springer, Cham

Meissner, R., Funke, N., Nortje, K. (2016). The politics of establishing catchment management agencies in South Africa the case of the Breede-Overberg Catchment Management Agency. *Ecology and Society*, Vol. 21, No. 3 (Sep 2016), Resilience Alliance Inc. <https://www.jstor.org/stable/26269968>.

Miles, M., Huberman, A., & Saldaña, J. (2014). *Qualitative data analysis: a methods sourcebook* (3rd ed.). Thousand Oaks, California: SAGE Publications, Inc.

Morgan, A. and Orr, S., (2015), 'The Value of Water: a framework for understanding water valuation, risk and stewardship', Discussion draft, WWF International and International Finance Corporation-IFC, 2015.

Newborne, P., and J. Dalton (2016). *Water Management and Stewardship: Taking stock of corporate water behaviour*. Gland, Switzerland: IUCN and London, UK: ODI. p. 132. doi: [10.2305/IUCN.CH.2016.16.en](https://doi.org/10.2305/IUCN.CH.2016.16.en)

National Climate Change Response White Paper. Downloaded from <https://www.sanbi.org/documents/national-climate-change-response-white-paper/>

OECD (2002), *Evaluation and Aid Effectiveness No. 6 - Glossary of Key Terms in Evaluation and Results Based Management* (in English, French and Spanish), OECD Publishing, Paris, <https://doi.org/10.1787/9789264034921-en-fr>.

OECD (2015a). ‘OECD Principles on Water Governance’, Directorate for Public Governance and Territorial Development, Organisation for Economic Cooperation and Development. 2015.<http://www.oecd.org/regional/watergovernanceprogramme.html>. Retrieved from <http://www.oecd.org/cfe/regional-policy/Inventory.pdf> and <http://www.oecd.org/cfe/regional-policy/world-water-forum-7.htm>

OECD (2015b). Drivers of stakeholder engagement in the water sector”, in Stakeholder Engagement for Inclusive Water Governance, OECD Publishing, Paris. Retrieved from <http://www.oecd.org/cfe/regional-policy/oecd-principles-on-water-governance.htm>) <http://doi.org/10.1787/9789264231122-3en>

OECD (2018a). OECD Water Governance Indicator Framework, based on OECD report Implementing the OECD principles on Water Governance: Indicator Framework and Evolving Practices: A tool supporting implementation of the OECD Principles on Water Governance, 2015. <https://doi.org/10.1787/9789264292659-en>

OECD (2018b), Implementing the OECD Principles on Water Governance: Indicator Framework and Evolving Practices, OECD Studies on Water, OECD Publishing, Paris,<https://doi.org/10.1787/9789264292659-en>.

Ogrinc, G., & Batalden, P. (2009). Realist evaluation as a framework for the assessment of teaching about the improvement of care. *Journal of Nursing Education*, 48(12), 661-667. Doi: [10.3928/01484834-20091113-08](https://doi.org/10.3928/01484834-20091113-08)

Olsson, P., Folke, C and Hahn, T. (2004a). Social-ecological transformation for ecosystem management: the development of adaptive co-management of a wetland landscape in southern Sweden. *Ecology and Society*, 9(4), p. 2. Doi: [10.5751/ES-00683-090402](https://doi.org/10.5751/ES-00683-090402)

Olsson, P., Folke, C., & Berkes, F. (2004b). Adaptive co-management for building resilience in social ecological systems. *Environmental Management*, 34, pp. 75–90. Doi: [10.1007/s00267-003-0101-7](https://doi.org/10.1007/s00267-003-0101-7)

- Olsson, P., Gunderson, L., Carpenter, S., Ryan, P., Lebel, L., Folke, C., & Holling, C. S. (2006). Shooting the rapids: navigating transitions to adaptive governance of social-ecological systems. *Ecology and society*, 11(1). Doi: [10.5751/ES-01595-110118](https://doi.org/10.5751/ES-01595-110118)
- Page, R. R. 2012. Description of three environmental co-management systems in the Western Cape. Thesis. University of Stellenbosch, Stellenbosch, South Africa. [online] URL: <http://hdl.handle.net/10019.1/20140>
- Pawson, R. T., & Tilley, N. (1997). *Realistic Evaluation*. London: Sage, 1(2), 3-1.
- Plummer, R., Crona, B., Armitage, D., Olsson, P., Tengö, M., & Yudina, O. (2012). Adaptive comanagement: a systematic review and analysis. *Ecology and Society*, 17(3). Doi: doi.org/10.5751/ES-04952-170311
- Reig,P.(2015, August 12) Water Stewardship: Good for Business, Good for Sustainable Development. World Resources Institute. <https://www.wri.org/blog/2015/03/water-stewardship-good-business-good-sustainable-development>
- Republic of South Africa (RSA) (1998) National Water Act (36 of 1998). RSA, Pretoria, South Africa.
- Republic of South Africa (RSA) (2003) White Paper on Traditional Leadership and Governance. Department of Provincial and Local Government, Pretoria, South Africa.
- Rogers, P. J. (2008). Using Programme Theory to Evaluate Complicated and Complex Aspects of Interventions. *Evaluation*, 14(1), 29–48. Doi: [10.1177/1356389007084674](https://doi.org/10.1177/1356389007084674)
- Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2004). *Evaluation: A systematic approach*. Thousand Oaks, CA: Sage Publications.
- Rossi, P. H., Lipsey, M. W., & Freeman, H. E. (2007). *Evaluation: A systematic approach*. Thousand Oaks, CA: Sage Publications.

Ruitenbeek, J., & Cartier, C. M. (2001). The invisible wand: adaptive co-management as an emergent strategy in complex bio-economic systems (Vol. 34, p. 51). Bogor, Indonesia: CIFOR.

Ruitenbeek, J., and Cartier, C. 2001. The invisible wand: adaptive co-management as an emergent strategy in complex bio-economic systems. Occasional Paper Number 34. CIFOR, Bogor, Indonesia

Scriven, M. (1991). Evaluation thesaurus (4th ed.). Newbury Park, CA: Sage.

Shaw, I., Gould, N. (2011). The Consequences of Qualitative Social Work Research in: Qualitative Research in Social Work. Doi: 10.4135/9781849209694.n11

Smith, M., & Jønch Clausen, T. (2015). Integrated water resource management: A new way forward. World Water Council, Marseille.

Stem, C., Margoluis, R., Salafsky, N., & Brown, M. (2005). Monitoring and evaluation in conservation: A review of trends and approaches. *Conservation Biology*, 19(2), 295–309. Doi: [10.1111/j.1523-1739.2005.00594.x](https://doi.org/10.1111/j.1523-1739.2005.00594.x)

Tallis, H., Kareiva, P., Marvier, M., & Chang, A. (2008). An ecosystem services framework to support both practical conservation and economic development. *Proceedings of the National Academy of Sciences of the United States of America*, 105(28), 9457–9464. Doi: [10.1073/pnas.0705797105](https://doi.org/10.1073/pnas.0705797105)

Temis [Computer Software]. (2019). Retrieved from <http://www.temis.com>

Van Oudenhoven, A. P. E., Petz, K., Alkemade, R., Hein, L., & de Groot, R. S. (2012). Framework for systematic indicator selection to assess effects of land management on ecosystem services. *Ecological Indicators*, 21, 110–122. Doi: [10.1016/j.ecolind.2012.01.012](https://doi.org/10.1016/j.ecolind.2012.01.012)

Walters, C. J., & Holling, C. S. (1990). Large scale management experiments and learning by doing. *Ecology*, 71(6), 2060–2068. Doi: [10.2307/1938620](https://doi.org/10.2307/1938620)

WWF (2013), ‘Water Stewardship: Perspectives on business risks and responses to water challenges’, WWF Brief, 2013 Retrieved from http://awsassets.panda.org/downloads/ws_briefing_booklet_lr_spreads.pdf

WWF (2015), ‘Lower Kafue Sub-Basin, Zambia: Importance to Government’, WWF Brief, May 2015. 2030 Water Resources Group. Retrieved from <https://www.2030wrg.org/>

WWF International website http://wwf.panda.org/what_we_do/how_we_work/our_global_goals/water/water_management/stewardship_steps/

WWF International: ‘Steps to better water stewardship’:
http://wwf.panda.org/what_we_do/how_we_work/our_global_goals/water/water_management/stewardship_steps/

Zenani, V., Mistri, A. (2005) A Desktop Study on the Cultural and Religious Uses of Water using Regional Case Studies from South Africa. Department of Water Affairs and Forestry, Pretoria, South Africa.

Appendices

Appendix A Stakeholders

Formation partners

Department of Water and Sanitation (DWS), the Proto-CMA Pongolo-uMzimkulu, the National Business Initiative, WWF, the Strategic Water Partners Network and the International Water Stewardship Programme (IWaSP) entered into a partnership, known as the uMhlathuze Water Stewardship Partnership (UWaSP).

Stakeholders

Agreplan

Agriculture & forestry water users (e.g. Mondi, Sappi, NCT, SASA, Tongaat Hullet, Illovo, Citrus Growers Association)

Bigen Consulting

City of uMhlathuze Local Municipality

Community-based water users

Conservation organisations, including WWF-SA, KZN Wildlife, Wildlands and SANBI

Crocodile River Irrigation Board

CSIR

Department of Cooperative Governance (provincial)

Department of Water and Sanitation (national and provincial)

DHI South Africa

eThekweni Municipality

Ezemvelo KZN Wildlife

Exxaro

Foskor

Grindrod

Ground Truth

Heatonville Irrigators Forum

Impala Water Users Association

Inkomati Usuthu Catchment Management Agency

International Water Stewardship Programme (IWASP)

King Cetshwayo District Municipality

Mhlathuze Water

Mhlathuze Water

Mondi Forests

Mondi Richards Bay Mill

Mondi South Africa

Mondi Zimele

National Business Initiative (NBI)

Ngonyama Trust

Pongola-Umzimkulu Catchment Management Agency

Richards Bay Clean Air Association

Richards Bay Industrial Development Zone (IDZ)

Richards Bay Industrial Development Zone (RBIDZ)

Richards Bay Minerals (RBM)

Richards' Bay Coal Terminal (RBCT)
Sappi
South African Sugar Association
South32
Strategic Water Partners Network (SWPN)
The Department of Water and Sanitation (at a national and provincial level)
The Pongola-Umzimkulu Catchment Management Agency
The South African Sugar Association (SASA)
The various Water User's Association and farmers associations present in the catchment
The Zululand Chamber of Commerce and Industry (ZCCI)
Transnet
uMhlathuze Agriculture Irrigators Forum & other uMhlathuze-linked Irrigation Boards/Water
User Associations
uMhlathuze Local Municipality
uThungulu District Municipality
Working for Water (Mhlathuze Water)
Zululand Chamber of Commerce and Industry
South African Sugar Association Extension
Tongaat Hulett
Transnet
Tronox
uMhlathuze Valley Sugar Company
University of Zululand
Water Administration System
Water Research Commission
Wildlands Conservation Trust
Zululand Chamber of Commerce and Industry
Zululand Fire Protection Association

Appendix B Interview Guide

Table 1: Key questions to guide semi-structured interview through determining the water stewardship good practices.

Good water stewardship practices based on the CEO Water Mandate water integrity principles (2015)	Questions adapted from the CEO Water Mandate guide (2015)
Alignment to, support of and strengthening of public policy that advances sustainable water management	Has consideration been given of public sector’s mandates? Were procedures followed to secure a mandate Were strategies of local government considered during first phases?
Ensured appropriate and balanced representation of interests throughout the course of the establishment of the water stewardship programme	Are mechanisms processes /procedures existing to ensure stakeholder engagement Is action in place to balance interests? Is stakeholder representation monitored?
Clarity and transparency about the roles and responsibilities of water stewardship participants Ensuring capabilities of participants are sufficiently developed to fulfil these responsibilities and roles	Have capacity assessments been conducted of participants? Are the roles and responsibilities of participants clearly outlined?
Be clear and transparent about the water challenges being addressed by the water stewardship initiative, as well as the agreed scope and intended benefits	Has the challenge/problem been analysed and are the causes of the problems that will be addressed clear? Are the risks in delivering on the challenges clear and understood? Are there mechanisms in place to scope the programme and objectives? Are the benefits for the interest of the participants clear?
Be clear and transparent about how the water stewardship initiative is to be governed	Is there a structure, procedure, processes and strategies in place to govern the programme? Are there communication channels in place to ensure transparency? Are there agreements regarding decision-making processes ? Are the financial management processes clarified?
Track outcomes against the stated objectives of the water stewardship initiative	Is there a monitoring strategy in place? Has the monitoring been allocated to role players?
Foster an ethos of trust, and establish expectations for behaviour of the water stewardship initiative’s participants	Are decision-making processes allowing equal participation? Are there feedback mechanisms in place? Are there procedures in place regarding Behavioural conduct?

Source : The questions contained in this guide was informed by the CEO Water Mandate (2015)

Table 2. Key questions to guide the interview process to determine the good water stewardship practices during the different phases.

Phases	Questions
<p>Phase 1: Prepare</p> <p>This phase involves identification of stakeholders and markets, sharing of problems and recognition of interests and preparation of a road map</p> <p>This Phase, which often integrates elements of the Assess Phase below, consists of collecting information, mapping stakeholders, understanding the challenges, scanning the markets, engaging an initial team of core partners, developing an initial partnership strategy and roadmap together, and assigning roles and responsibilities, among others. This Phase may culminate in the signing of a letter of intent among the initiating partners.</p> <p><u>Downloaded from</u> https://ceowatermandate.org/wraf/phase-1-prepare/</p>	<p>Has a stakeholder map been drafted that reflects the interests and influence of each potential stakeholder in the programme?</p> <p>Has trust building begun to galvanize a small group of drivers of the initiative?</p> <p>Do we understand the context, landscape and stakeholder perspectives?</p> <p>Is there agreement on roles and responsibilities?</p> <p>Has capacity requirements and required resources been assessed?</p>
<p>Phase 2: Assess</p> <p>Phase 2, which is often integrated with elements of the Prepare phase, consists of a situation analysis, assessing water risks, developing scenarios and options for water risk mitigation measures, determining costs and benefits, further shaping the emerging partnership, elaborating the roadmap, and deciding on possible solutions, among others.</p> <p><u>Downloaded from</u> https://ceowatermandate.org/wraf/phase-2-assess/</p>	<p>Do we have clarity regarding the relevant water risks and have we considered mitigation options?</p> <p>Are stakeholder concerns being addressed?</p> <p>Do we understand the costs and benefits of the options identified?</p> <p>Have the stakeholders contributed to the development of the initiative’s design?</p> <p>Do the stakeholders have a common understanding of the programme goals?</p> <p>Have good practices been researched that could be learnt from and applied in the programme?</p>
<p>Phase 3: Commit</p> <p>The third Step includes the development of business cases and concepts, the elaboration of modes of delivery and taking on of responsibilities, the identification of necessary skills, and the securing of commitments from core partners and stakeholders, among others. This Step should lead to the signing of among core partners.</p> <p><u>Downloaded from</u> https://ceowatermandate.org/wraf/phase-3-commit/</p>	<p>Is there an agreed operational plan & have stakeholder participated in the development of an implementation plan?</p> <p>Are the achievements of results documented?</p> <p>Is there transparency in internal and external communication? Are there agreed mechanisms in place?</p> <p>Is there an agreement in place which mandates the programme?</p> <p>Are there sufficient resources secured?</p> <p>Has leadership capacity been developed?</p>
<p>Phase 4. Act</p> <p>In the fourth Phase, the stakeholders are fully involved in the implementation of the initiative including activities such as further building capacity among implementers, on-the-ground</p>	<p>Is the implementation plan in place and are we keeping up with it?</p> <p>Are we addressing capacity building needs?</p> <p>Are the governance processes being adhered to?</p> <p>Is there a monitoring of progress mechanism</p>

Phases	Questions
<p>implementation, coordination and management of activities, and monitoring of progress, among others. This Phase of implementation will be more successful if the previous Phases have been thoroughly carried out.</p> <p><u>Downloaded from</u> https://ceowatermandate.org/wraf/phase-4-act/</p>	<p>in place?</p> <p>Is there a platform that creates opportunity for discussion?</p> <p>Is communication mechanism sufficient to provide transparency and feedback?</p>
<p>Phase 5. Scale and Exit</p> <p>The final phase includes an evaluation and a consideration of next steps. This Phase includes assessing the impacts and lessons, deciding if and how the initiative could be scaled up, and the final handover of responsibilities to local managers or the next implementation team.</p> <p><u>Downloaded from</u> https://ceowatermandate.org/wraf/phase-5-scale-exit/</p>	<p>Is there a review and evaluation process established?</p> <p>Are we aware of changes and is the programme addressing new contexts?</p> <p>Has the replication or scaling-up potential of the programme been assessed?</p> <p>Has the governance structure been designed in a way to take the initiative to the next level (if appropriate?)</p> <p>Has an exit strategy been designed for all partners who may not be part of the next phase of the initiative?</p>

Table 3. Contextual influences – Guiding information from literature (CEO, 2015)

Category of contextual influencers	Description to guide interviewer
Political	<p>The political landscape and role of internal politics within the public- private and civil society sectors to influence decision-making. The political attitudes of local stakeholders and participants toward the problem being addressed by the water stewardship initiative, as well as conceptions of multi-stakeholder partnerships, may influence the integrity of the water stewardship initiative. External events such as elections or financial crises may shape behaviours and responses to water stewardship opportunities (CEO Water Mandate, 2015, p.19).</p>
Market & Financial	<p>The interaction and relative power of socio-economic groups and actors affects their overall bargaining ability and the impact that collusion and capture can have on the distribution of private gains among the water stewardship initiative (UWaSP) stakeholders. How the market functions in particular contexts (the existence of monopolies, how licenses are issued, etc.) may also shape the incentives and engagement of water stewardship initiative’s participants. (CEO Water Mandate, 2015, p.19).Absence of robust well designed and transparent processes for planning, decision making stakeholder participation, whistle blowing, financial management and monitoring. availability of funding to form a water stewardship initiative and to conduct the necessary initial needs- and context analysis necessary to determine needs and priorities (CEO Water Mandate, 2015, p.19).</p>
Socio-economic & Cultural	<p>These contextual factors could include socio-economic development factors such as social cohesion, demographic shifts, poverty and livelihood considerations, gender, and cultural attitudes toward issues such as contracts, agreements, access to information, and the rule of law (CEO Water Mandate, 2015, p.77).</p> <p>The demographic patterns affecting demand for water such as population growth, development of informal settlements, household consumption and competition among water users. Cultural traditions including traditional leadership and its role in implementing local projects- and initiatives. Trust building and acceptance of the water stewardship initiative within the community and inclusivity of the community in the planning process of the</p>

Category of contextual influencers	Description to guide interviewer
	water stewardship initiative are also contextual influences (CEO Water Mandate, 2015, p 77)
Technical & Content	The role of “Stewardship” as a philosophy and its adoption, the influence of the level of capacity within the community and of partners and/forum members of the water stewardship initiative. Planning, implementation, steering processes and steering structure is included within the broader technical category (CEO Water Mandate, 2015, p. 79)
Environmental	Environmental or water catchment area context: Factors include the availability and quality of water; climate variability and impacts of droughts and floods; important values, uses, and functions of water and water related ecosystems; current and future water demand and conflict in the water stewardship initiative. These factors need to be well understood and considered to identify priorities for the water stewardship initiative and to inform potential trade-offs among economic, social, and environmental interests (CEO Water Mandate, 2015, p. 77).
Policy Institutional & Regulatory	The maturity, “personality,” and performance of relevant water catchment basin management and other government institutions will be a key determinant of the establishment of a water stewardship initiative. A challenge exists where public policy, law, or the intent of public authorities is not yet aligned with sustainable water management or with the best interests of local stakeholders and environment. Elements beyond the control or influence of the water sector, such as land or economic policy, may also have a bearing on water stewardship initiatives (CEO Water Mandate, 2015, p. 78).

Appendix C Interview data analysis template

Good water stewardship practices	Phase 1 Prepare	Phase 2 Assess	Phase 3 Commit	Phase 4 Act	Phase 5 Scale &Exit	* Interviewee no 1-14 add columns
Alignment with public policy for sustainable water management (CEO Water Mandate, 2015, p.21)	Undertake a participatory context analysis (Risk and opportunity assessment)	Assess potential of capture risks Establish monitoring and oversight		(programme review and learning events)	Assess capture risks during completion	
Balanced representation of interests (CEO Water Mandate, 2015, p.22)	Identify and map interests affected by the water stewardship initiative (Identify focus areas)	Determine affected stakeholder representation in the WSI (Beneficiaries identified)	Monitor representation and participation	Continuously Engage affected and potentially new stakeholders	Engage affected stakeholders	
Transparency of roles and responsibilities and adequate capacity (CEO Water Mandate, 2015, p.23)	Analyse participant records and incentives (Key drivers and stakeholders)	Assign appropriate roles and responsibilities Build Capacity (Experts identified)	Assign appropriate roles and responsibilities	Assign appropriate roles and responsibilities	Assign appropriate roles and responsibilities	
Clarity and transparency about the water challenges being and the agreed scope and intended benefits (CEO Water Mandate, 2015, p.24)	Undertake a participatory context analysis (Risk and opportunity assessment)	Define, scope, objective and public interest of the WSI	Regularly question and verify the theory of change	(Continuously review existing and new challenges and ensure alignment to theory of change)	Learning and knowledge sharing	
Clarity and transparency about governance of the water stewardship initiative. (CEO Water Mandate, 2015, p.25)	(Governance structure established)	Establish equitable decision-making structures, communication and finance and determine form (Governance structure formalized)	Monitor WSI participation adherence to governance	Monitor WSI participation adherence to governance	Participatory final evaluation and audit Embed activities and outcomes into existing institutions	
Monitoring: Track outcomes against the stated objectives of the water stewardship initiative (CEO Water Mandate, 2015, p.26)	Develop programme theory	Establish M&E systems Establish an exit strategy	(Establish detailed operational plan Monitoring plan developed and implemented)	Communicate about WSI performance (Implement operational plan and monitor performance)	Participatory final evaluation and audit Embed activities and outcomes into existing institutions	
Foster an ethos of trust, and establish expectations for behaviour of participants (CEO Water Mandate, 2015, p.26)		Clarify expectations of WSI behaviour	Clarify expectations of WSI behaviour	Clarify expectations of WSI behaviour		

Description: Every phase is a sheet per phrases of each interviewee is inserted in the matrix of good practices and per phase in the right-hand columns *

Appendix D Workshop Guide

The following procedures were applied during the evaluation workshops:

Instructions to the participants:

Describe the purpose of the study and request signing of the informed consent form and explain that the group division is to consolidate feedback per sector

Divide into the following groups: Civil society, private sector and public sector representatives

Each participant has received a pack of cards and a pen

Please write your answer to the questions on the board in large font. Write one short sentence per card and as many ideas as you would like.

Present your cards for discussion during the group discussion session which follows the idea generation step.

Questions:

Question 1: “UWaSP, being a collaborative water stewardship forum ... in order to achieve the UwaSP goals, what are the good water stewardship practices required to do so (i.e. what attitudes, values and behaviours are required?)”

The good practices contained in the model were shared before continuing to question 2

Question 2: “In your groups, give a rating on how you perceive the UWaSP in terms of your team’s practices/principles of good water stewardship”.

Use the following rating:

1= Achieved

2= need for improvement or in-progress

3= not achieved

Instruction: “Discuss your ideas in your group, elect a presenter and present your ideas to the larger group”.

Appendix E Document review templates

Documents reviewed

The following documents were reviewed during the course of conducting the evaluation and is available upon request


Concept note
Needs Assessment
Risk assessment and communication plan
Letter of intent
Status Quo report
Memorandum of Understanding
Governance structure presentation
Water Risk Action plan of operations 2017
Water Risk Action plan of operations 2018
Progress report 2016
Progress report 2018
Communications plan and risk assessment
Monitoring framework
Water Risk Action Framework approval
Workshop project progress report February 2019
Workshop 1 November 2018 report
Workshop 2 report January 2019
Workshop 1 presentation and progress report
Partnership progress presentation
Project progress template and report
Financial information and contributions from partners Confidential
Attendance registers Confidential
Minutes of meetings Confidential
Annual IWaSP monitoring reports

List of documents generated during the evaluation

Project progress report
Interview quotations extracted from the interview transcripts
Interview quotations for contextual influences extracted from the interview transcripts

Rating codes for documentation evaluation during the five phases of the programme

Code and colour	Rating clarification	Rating description
1	The document did not exist or did not meet the minimum criteria	“Not achieved
2	The document was drafted, but either not yet finalized or signing off was still in-progress	“in progress”
3	The document fully meets the minimum criteria and is continuously updated	“Achieved and ongoing
4	The document fully meets the requirements	“Achieved and complete ”

Reference number	Good practices	Document criteria met/not per phase				Totals per practice			
		1	2	3	4	1	2	3	4
		Insert rating and colour here 				Add up all (N) occurrences of rating per practice			
1	Align with, support, and strengthen public policy that advances sustainable water management	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Ensure appropriate and balanced representation of interests throughout the course of the Water stewardship initiative	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Be clear and transparent about the roles and responsibilities of water stewardship participants, and ensure that their capabilities are adequate or sufficiently	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Be clear and transparent about the water challenges being addressed by the water stewardship initiative, as well as the agreed scope and intended benefits	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Be clear and transparent about how the water stewardship initiative is to be governed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Track outcomes against the stated objectives of the water stewardship initiative (clear, demonstrable outcomes that advance sustainable water management)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Foster an ethos of trust, commitment and transparency and establish expectations for behaviour of the water stewardship initiative's participants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Insert total number of times a rating has occurred per practice in the blocks on the right	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix F Ethics approval



Faculty of Commerce

Private Bag X3, Rondebosch, 7701
2.26 Leslie Commerce Building, Upper Campus
Tel: +27 (0) 21 650 4375/ 5748 Fax: +27 (0) 21 650 4369
E-mail: com-faculty@uct.ac.za
Internet: www.uct.ac.za



@Commerce UCT



UCT Commerce Faculty Office

21 November 2018

Ms Estelle Gautier
School of Management
Studies
University of Cape Town

Dear Estelle Gautier,

REF: REC 2018/011/143

A Theory and Process Evaluation of an International Water Stewardship Programme in South Africa.

We are pleased to inform you that your ethics application has been approved. Unless otherwise specified this ethical clearance is valid for 1 year and may be renewed upon application.

Please be aware that you need to notify the Ethics Committee immediately should any aspect of your study regarding the engagement with participants as approved in this application, change. This may include aspects such as changes to the research design, questionnaires, or choice of participants.

The ongoing ethical conduct throughout the duration of the study remains the responsibility of the principal investigator.

We wish you well for your research.

Modie Sempu
Administrative Assistant
University of Cape Town
Commerce Faculty Office
Room 2.26 | Leslie Commerce Building

Office Telephone: +27 (0)21 650 4375
Office Fax: +27 (0)21 650 4369
E-mail: modie.sempu@uct.ac.za
Website: www.commerce.uct.ac.za<<http://www.commerce.uct.ac.za/>

"Our Mission is to be an outstanding teaching and research university, educating for life and addressing the challenges facing our society."

Appendix G Permission from Client to conduct the study



UNIVERSITY OF CAPE TOWN
IYUNIVESITHI YASEKAPA - UNIVERSITEIT VAN KAAPSTAD

In order to comply with the rules of the Faculty of Commerce, we request you sign below to indicate that you are aware of the research / evaluation been undertaken by one of our students in your organisation, and that you will support the student to access programme data, records and recipients if applicable.

Yours sincerely,

Signature Removed

Associate Professor Sarah Chapman

COURSE CONVENOR: MPhil Programme Evaluation and PhD in Programme Evaluation

AGREEMENT FOR STUDENT TO UNDERTAKE RESEARCH AND/OR AN EVALUATION IN YOUR ORGANISATION:

Signature Removed

Signature of Authorised Person

GIZ

Organisation

3/7/18

Date

Programme theory and process evaluation of an International Water Stewardship Programme in South Africa

Name of the programme student will evaluate (if applicable)

Appendix H Informed consent

This research has been approved by the Commerce Faculty Ethics in Research Committee of the University of Cape Town



Information Sheet and consent form for participation in a research project for the Umhlathuze Water Stewardship Programme

I am Estelle Gautier and acting in my capacity as a student from the University of Cape Town (UCT) to conduct research for the partial completion of a Master's degree in Philosophy in Programme Evaluation.

The Umhlathuze Water Stewardship Programme (UWASP) applies the principles of water stewardship to improve water security through effective water governance. The subject of the research is to gain insight into how water stewardship is reflected in UWASP as a collaborative platform and the interventions and/projects that are aimed at contributing towards water security in the area.

I would like to invite you to participate in an approximate 30-minute interview or three-hour focus/workshop group discussion during which you will be asked to give your responses to some of the research questions. These questions are not personal in nature and is largely focused on the UWASP programme and water security in general. The interview will be recorded, using a voice recorder or by means of written notes. Please note that this will be anonymous and will pose no risk to you, either in your personal capacity or the organisation that you represent. The interviews of all participants will be analyzed to gain general insights without any names or organisational identity connected to the findings. The data will be stored in a secure platform provided by the University of Cape Town to ensure full security of inputs given. During your participation in our workshop, your inputs will be part of the group and therefore not anonymous. However, the reporting of the workshop input- and findings will not have any identity attached to it. Your organisation will receive a report on the findings and recommendations following this research. Your signature below will serve as consent that you are willing to participate in providing information towards this research. Please note that your participation in this research is totally voluntary and you may withdraw from participating at any stage. You may request a copy of this form

Name and Surname: _____

Signature: _____

Date: _____

Researcher