


A communication strategy for water reuse in South Africa

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ABSTRACT

Water-scarce regions, including South Africa, have identified water reuse as one of the promising solutions to augment water supply to meet the ever-increasing demand for freshwater resources. However, public perceptions have been identified as a critical factor, which can either facilitate the success and acceptance of water reuse projects or become a formidable barrier. To address this challenge in South Africa, the National Strategy for Water Reuse calls for the development of a national communication strategy to promote understanding of water reuse and foster its public acceptance. This paper outlines the journey from consultation with stakeholders to development of a national communication strategy for water reuse in South Africa. The strategy has been crafted using a framework that is based on an understanding of the complex interplay of public opinions and perceptions of water reuse. The strategy targets public education and aims to empower the public to become water reuse literate. The framework used to develop the strategy is versatile, and capable of effectively addressing the multi-dimensional and context-specific aspects of water reuse.

Key words: communication strategy, public education, water reuse

HIGHLIGHTS

- The importance of public knowledge and attitudes (water literacy) in the implementation of water reuse.
- The importance of a communication strategy in the implementation of water reuse.
- The basic requirements for developing a communication strategy on water reuse?
- The concepts of communication outcomes and sustainability in the implementation of the strategy.

INTRODUCTION

Water scarcity is one of the most pressing challenges facing humanity in the 21st century (Pereira *et al.* 2009). The unprecedented growth of the human population is one of the significant drivers that has significantly impacted various aspects of our planet, including exacerbating local physical water stress in many regions around the world. Increased water use due to population growth has far-reaching implications for water resources quality, as it contributes to pollution and it intensifies competition for limited water resources, thereby heightening the risk of water scarcity and local physical water stress. Local physical water stress is also exacerbated by climate change-induced shifts in precipitation patterns and temperatures, which lead to more unpredictable weather and extreme weather events, including floods and droughts. As such, the sustainable management of water resources has become imperative to avoid water stress-induced scarcity (United Nations Educational, Scientific and Cultural Organization 2023).

According to the 2023 United Nations World Water Development Report, many of the water resources in middle- and lower-income countries have become stressed due to increased water use, which outstrips the supply (United Nations Educational, Scientific and Cultural Organization 2023). South Africa is classified as a low-income country, and grapples with acute water scarcity issues (Donnenfeld *et al.* 2018). Municipal water reuse as an alternative and sustainable means of augmenting water supply was formally recognised in national policies in South Africa through the first National Water Resources Strategy (NWRS), developed in 2004 (Department of Water Affairs and Forestry 2004). However, it was not until 2011 that South Africa's first direct potable water reuse facility, Beaufort West Reclamation Plant, was commissioned.

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The slow progress in the implementation of water reuse in South Africa has been attributed to one or a combination of regulatory, institutional, technical, financial, and human capacity-related barriers, as well as low public acceptance (van Niekerk & Schneider 2013). As a means of expediting the implementation of municipal water reuse, a National Strategy for Water Reuse was developed as part of the second edition of the NWRS (Department of Water and Sanitation 2013). The National Strategy for Water Reuse provides a list of key strategic policy, institutional, financial, technological, and social interventions that need to be put in place to address the barriers to the implementation of water reuse in South Africa and promotes and guides the responsible and sustainable use of reclaimed water (treated wastewater) for various beneficial purposes.

Among the key interventions identified in the National Strategy for Water Reuse is the development and implementation of national communication strategy for water reuse. This strategy is needed to address inadequate public knowledge of water reuse and influence the public's opinion and perceptions of water reuse to facilitate acceptance. Such a strategy should aim 'to develop and entrench awareness of the different facets of water use and specifically water reuse' (Department of Water and Sanitation 2013). The significant influence of public opinions and perceptions on the successful implementation of water reuse, is a phenomenon that is not unique to South Africa but is a long-standing and common worldwide challenge that many utilities and nations face till today (Gorelick & Serjak 2018; Palmer Development Group 2019; Hou *et al.* 2021; Nkhoma *et al.* 2021; Portman *et al.* 2022). Negative public perceptions of water reuse often arise from concerns about the safety and quality of the final treated water, due to a lack of trust in the implementing authority and inadequacy of installed water treatment technologies to remove all contaminants, as well as the 'yuck' factor (Po *et al.* 2003; Hurlimann & Dolnicar 2016; Smith *et al.* 2018; Nkhoma *et al.* 2021). Public opinions and perceptions in South Africa are further negatively influenced by the dismal performance of most municipalities in wastewater management, as indicated in the annual national Green Drop report for wastewater quality management (Department of Water & Sanitation 2022). According to Owen & Chitonge (2022) building trust and overcoming negative public perceptions of water reuse are essential steps in promoting the acceptance and successful implementation of water reuse projects in South Africa.

Research findings (Macpherson & Slovic 2008; Macpherson & Snyder 2012) have shown a correlation between public knowledge and the public acceptance of water reuse. These studies postulate that an improved public understanding of the water cycle and treatment technology, is likely to foster support and acceptance for responsible water reuse. Following on the hypotheses provided in these earlier studies, Muanda *et al.* (2017) concluded that public knowledge acquisition and public engagement are proactive elements that are key in addressing resistance to the implementation of water reuse, building trust relationships between stakeholders and authorities, and effectively introducing water reclamation schemes in South Africa. This conclusion is supported by a review of case studies where water reuse has been historically implemented successfully, for example, in Namibia, Australia, Belgium, Singapore, the United Kingdom, and several cities in the United States of America. Muanda *et al.* (2017) also highlighted the significant role of effective public engagement through strategic communication in garnering support, building awareness, and fostering knowledge and trust among stakeholders.

The urgency for a national communication strategy on water reuse has heightened in South Africa recently. This is due to the increased focus on water reuse as one of the viable mechanisms to augment current water resources. The need for managing water resources sustainably to ensure adequate supply for all uses has been restated in the National Water and Sanitation Masterplan of South Africa (Department of Water and Sanitation 2019). This masterplan document was developed in 2019 under the leadership of the Department of Water and Sanitation (DWS), and it outlines precise actions for the country to address identified top-priority water and sanitation challenges. The document envisages that South Africa can avoid a projected 17% water deficit by 2030 by diversifying the water resource mix to include alternative sources such as treated wastewater. As an initial step, a National Water Programme (NWP) office aimed at supporting municipalities with project feasibility studies and mobilising innovative finance solutions for water reuse has been recently established (Development Bank of Southern Africa 2022). While this intervention will assist in overcoming many of the technology, capacity, and financial-related challenges, lack of public acceptance remains a major barrier to the implementation of water reuse, particularly direct potable reuse in South Africa. Consequently, the dedicated national water research entity in South Africa, Water Research Commission, has assumed the lead role in crafting the much-needed national communication strategy for water reuse that the National Strategy for Water Reuse (Department of Water and Sanitation 2013) calls for.

This paper outlines the methodology and steps taken to develop a national communication strategy specifically tailored to the context of supporting the implementation of water reuse in South Africa. Although basic principles for the development of public communications plans were considered, the review of literature on the complex interplay of public opinions and perceptions on the implementation of water reuse projects worldwide, provided a solid basis for designing an effective

communication strategy within the context of water reuse. The approach followed is thus unique in that it also takes into consideration several water reuse-specific aspects, namely: stakeholder inputs, the need to understand the audience in order to tailor goal-driven messaging and delivery, cultural sensitivity, alignment with broader goals and vision of the water sector, and adaptability to achieve specific communication objectives within the current context of water reuse in South Africa. Although the developed strategy has been tailored for the South African context, this paper offers practical insights and recommendations that can guide the creation of a communication strategy tailored to the unique needs and contexts of other national water reuse programmes around the world. The paper aspires to contribute to the sustainable and widespread adoption of water reuse practices, fostering environmental sustainability and water resilience on a national scale.

FRAMEWORK FOR DEVELOPING A COMMUNICATION STRATEGY FOR WATER REUSE

Mefalopulos & Kamlongera (2004) define communication strategy development as ‘a well-planned series of actions aimed at achieving specific objectives through the use of communication methods, techniques and approaches’. The Mefalopulos (2008) framework was used as basis for the development of the national communication strategy for water reuse. This framework is a widely recognised model for communication strategy development and implementation in the context of development projects that require a participatory approach as they are aimed at bringing about positive social and behavioural change (e.g., Tufte and Mefalopulos 2009; Soria *et al.* 2021). In the context of water reuse, the specific advantages of using the Mefalopulos framework are as follows:

- Considers specific contexts – The Mefalopulos framework emphasises the importance of understanding the specific context in which the communication strategy will be implemented. Water reuse initiatives often take place in diverse geographic, cultural, and socio-economic contexts. By conducting a thorough situational analysis, implementing authorities or regulators can grasp the unique challenges, opportunities, and stakeholder dynamics related to water reuse in a particular region.
- Uses an audience-centred approach – The framework places a strong emphasis on audience analysis and participatory approaches. Developing public acceptance for water reuse relies on understanding the concerns, perceptions, and information needs of the target audience. This audience-centred approach aligns with the necessity of tailoring messages and engagement strategies to address the concerns and preferences of diverse stakeholders.
- Message tailoring – Effective communication about water reuse requires crafting messages that resonate with the local population. The Mefalopulos framework focuses on designing communication strategies and messages, aligns with the need to create messages that are contextually relevant and culturally sensitive.
- Participatory decision-making: Water reuse often involves multiple stakeholders, including local communities, government agencies, environmental groups, and industry. The Mefalopulos framework’s emphasis on involving stakeholders in the design and implementation of communication strategies aligns with the need for collaborative decision-making and building consensus around water reuse projects.
- Adaptive management – The Mefalopulos framework highlights the importance of evaluation and feedback for adaptive management. Water reuse initiatives may face changing circumstances, evolving public opinions, and unexpected challenges. An adaptive communication strategy allows for ongoing assessment of effectiveness and the ability to adjust based on real-time feedback and lessons learned.
- Cross-sectoral application – The Mefalopulos framework is applicable across various sectors and issues, making it versatile for addressing the multi-dimensional aspects of water reuse. It can accommodate the complex interplay of technical, environmental, social, and policy factors that characterise water reuse projects.
- Evidence-based decision-making – The framework encourages the use of evidence to inform communication strategies. This aligns with the need to provide scientifically sound information about water treatment, quality standards, and safety measures to address public concerns and misconceptions.
- Community engagement – Water reuse projects often require strong community support and engagement. The framework’s participatory and feedback-oriented approach promotes community involvement and can help build trust and acceptance.

Figure 1 shows the four-phased approach (adapted from Mefalopulos (2008)), used for developing the proposed national communication strategy for water reuse (Slabbert & Green 2020a). This framework aligns well with the requirements of the communication strategy envisaged in the National Strategy for Water Reuse, which emphasises that the strategy needs to be based on a deep understanding of the local context and the active involvement of stakeholders (Department of Water and Sanitation 2013).

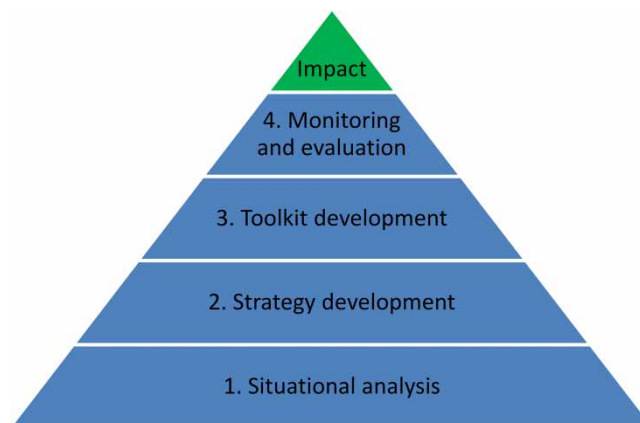


Figure 1 | The four phases of a communication strategy (adapted from Mefalopulos 2008).

DEVELOPMENT OF THE NATIONAL COMMUNICATION STRATEGY FOR WATER REUSE

Phase one: situational analysis and findings

The situational analysis comprised the following aspects:

- A literature review
- Stakeholder engagement, and
- A baseline survey to establish public knowledge on water reuse.

As an initial step, a literature review on the development of a communication strategy for a public education programme for water reuse was conducted. The literature included local and international perception studies on water reuse, as well as best practices in water reuse communication strategies and campaigns (e.g., [Po et al. 2003](#); [Hurlimann & Dolnicar 2016](#); [Smith et al. 2018](#); [Nkhoma et al. 2021](#)). Lessons gathered from these research studies, best practices, and experiences on the successful water reuse projects in Namibia, Australia, Belgium, Singapore, the United Kingdom, and several cities in the United States of America, confirm the development of a communication strategy as a solution to address public perceptions. Such a communication strategy must involve the participation of all stakeholders and be tailored to local circumstances ([Slabbert & Green 2020a](#)).

A 'stakeholder', in the context of this study, is defined as an organisation that has a vested interest in water reuse and whose actions will benefit from a water reuse literate public (adapted from [Freeman \(2004\)](#)). The study followed a multi-stakeholder engagement approach, and the following stakeholders that fit this definition were identified:

1. The DWS, who is the custodian of water in South Africa and owner of the National Strategy for Water Reuse, as not only the primary stakeholder of the study but as a partner
2. Metropolitan municipalities and other large municipalities that have implemented or are planning to implement water reuse projects
3. The South African Local Government Association (SALGA)
4. Water Services Providers other than municipalities, such as the Water Boards and private companies
5. Water-intensive industries and mines, who are implementing or planning to implement water reuse projects
6. The research community who has done extensive groundwork for the implementation of water reuse in South Africa, and who included public communication in their studies
7. The Department of Environmental Affairs (to get their input on the content of a public water reuse strategy as far as environmental protection is concerned)
8. The Department of Basic Education as the primary educator of the future public
9. The Department of Higher Education and Universities of South Africa
10. The Gauteng Environmental Education Forum (GEEF), and
11. The Development Bank of Southern Africa (DBSA).

The engagement with the above-mentioned stakeholders involved group and individual discussions, a stakeholder workshop, and further individual discussions to follow up on the workshop. The input that was requested from these stakeholders includes answers to questions regarding:

- Needs and expectations of a public education programme for water reuse.
- Terminology and definitions: What standard terms and definitions should one use for public awareness and education?
- Objectives and expected outcomes: What does one want the South African public to know? And what levels of knowledge are desirable?
- Target audiences: Who should be the primary target audience(s) of a public education programme to ensure sustained awareness and knowledge?
- Messages: What should be the key messages of an education programme?
- Channels and media: What would be the most appropriate channels and media to achieve sustained awareness and knowledge? Does one include social media as a channel and how could one minimise the risk of misinformation?

The public was identified as both a stakeholder and the target audience of a public education programme. The public was engaged through a national survey to assess their baseline knowledge of water reuse and related aspects. The survey consisted of 19 structured questions developed by [Slabbert & Green \(2019\)](#), which were put on the OMNIBUS survey of NielsenIQ South Africa. The OMNIBUS survey is one of the largest, syndicated surveys conducted by the major market research houses in South Africa.

The questionnaire was designed to cover the following knowledge aspects that were identified in the literature review and the stakeholder consultations:

- Knowledge of terminology such as ‘wastewater’, ‘treatment’, ‘greywater’ and ‘water quality standards’
- Knowledge of the water cycle
- Knowledge of water and wastewater treatment and municipal responsibilities in this regard
- Knowledge of de facto water reuse
- Knowledge of safety aspects of water reuse
- Common myths and misconceptions
- Knowledge of the effect of climate change on the availability of water
- Knowledge of South Africa as a water-scarce country, and
- Knowledge of different types of water reuse.

The OMNIBUS survey was selected as the ideal medium to administer the questionnaire because it covers a scientifically drawn, representative sample of a South African population consisting of persons of 15 years and above, different demographic groups, different levels of education, ethnicity, and drawn from both urban and rural areas nationwide. For this study, a probability sample of 3,319 respondents was drawn from the national household census of more than six million addresses.

Interviews were conducted in the homes of respondents using a structured Computer-Assisted Personal Interviewing (CAPI) questionnaire, in the preferred language of the respondent. For quality control, it is NielsenIQ’s practice to systematically select 15% of each interviewer’s work for checking. The sample was post-weighted to reflect the estimated population in thousands. The analysis was done by specified demographic breakdowns: province, sex, age, race, highest level of education, community (Metropolitan municipality, urban or rural), and Living Standards Measure (LSM). The LSM has been developed by the South African Advertising Research Foundation (SAARF) and is a segmentation tool based on access to services and durables as determinants of the standard of living ([Ntloedibe & Ngqinani 2020](#)). The tool uses twenty-nine variables, including, water in the home/on plot, hot running water, and a flush toilet. In total, ten levels of LSM have been identified in South Africa, with ten being the highest living standard and 1 being the lowest. The NielsenIQ survey uses the t-test to calculate statistical significance at a 95% confidence interval.

Regarding knowledge of basic terminology, results from the survey showed that only 35% of the South African respondents answered correctly by identifying ‘greywater’ as the correct term for wastewater from bathing, washing clothes and dishes ([Figure 2](#)). About 6.4% of the respondents incorrectly selected the answer as ‘potable water’, illustrating that they also did not know what this term meant.

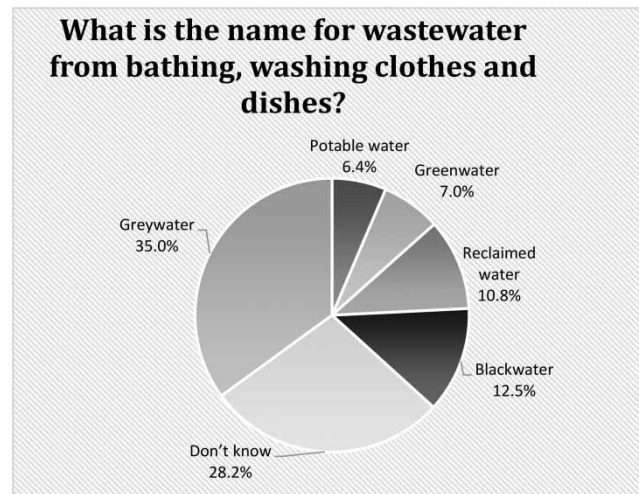


Figure 2 | Familiarity with the term 'greywater'.

When asked about appropriate interventions for ensuring sustainable water use, about 48% of the respondents indicated that they would support water reuse in a severe drought situation, including direct potable reuse. As expected, the support for direct potable reuse was lower than the support for industrial and greywater reuse, but the difference was less than 10%. The Pearson correlation coefficient was used to determine if a relationship existed between knowledge of water reuse and support for different types of water reuse in a severe drought situation. Although the correlations were weak, the survey confirmed that knowledge of water reuse and related aspects correlates positively with support for water reuse.

The study also found that general education levels are related to support for water reuse. About 54.6% of respondents with a post-Grade 12 qualification supported direct potable reuse in a drought, which was significantly more than respondents with only primary education (39%). The results obtained suggested that South Africans of all demographic groups (sex, age, race, language, LSM, educational level) lack knowledge and understanding of the basic aspects of water reuse, which are needed for a meaningful public discourse on water reuse. The distribution curve of the knowledge index score, which was a composite score for the knowledge aspects investigated in the study, showed that most scores were clustered between 10 and 13 out of 20, which meant that public knowledge of these simple, basic facts was between 50 and 65% (Figure 3). Demographic differences were not statistically significant, indicating that this limited knowledge cuts across all demographic groups. Even for the highest LSM, LSM 8-10, and for people with a post-Grade 12 qualification, the average scores were 13.05 and 12.65, respectively.

There are no similar studies in literature that can be used to compare these findings as they are specific to the South African context. However, it was evident that a public education programme for water reuse to bridge the knowledge gaps should be the starting point for developing a communication strategy. A well-designed public education programme has been reported

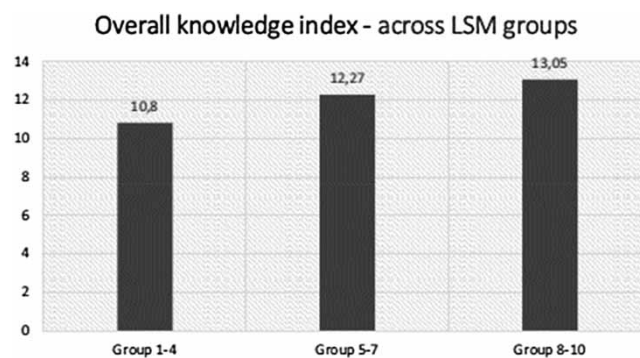


Figure 3 | Knowledge index score out of 20 for the three Living Standard Measure (LSM) groups.

in the literature to play a pivotal role in bridging knowledge gaps and serves as a foundation for developing an effective communication strategy, particularly in complex and technical fields such as water reuse (Beutler 2016). However, it was acknowledged that the identification of knowledge needs must be a dynamic two-way process, which allows the public to have a voice in their knowledge needs. Furthermore, the content of what the public needs and wants to know will evolve and expand as new research and development uncover and discover new information.

Phase two: strategy development

Table 1 sets out the steps that were followed to develop the communication strategy for a public education programme on water reuse.

In applying the basic principles of Mefalopulos (2008), the broad outcome of the communication strategy was defined as: ‘Citizens who are so well informed on water reuse and related aspects that they can contribute meaningfully to scientific debate and decision-making regarding the sustainable management of water resources at all levels of society’ (Slabbert & Green 2020b). With the broad outcome in mind, two objectives were defined for the communication strategy:

- (1) To establish a water reuse literate public, and
- (2) To ensure that public knowledge of water reuse is sustainable. Sustainable public knowledge in the context of water reuse management was defined as ‘knowledge, values and behaviour that have become entrenched in the fabric of a society and which are transferred to future generations’.

Each of these objectives was scrutinised according to the SMART principles, i.e., is it specific, measurable, assignable to an implementing institution, relevant, and time-based?

A multi-layered approach to target audiences was proposed to ensure that the strategy targets citizens at multiple touch-points: vertically in the many roles that they fulfil in society (Figure 4) and horizontally as their learner identity changes (Figure 5) over time. For each of these target audiences, suitable communication activities and channels were proposed. Water reuse literacy messages were tailored, applying multiple modalities to deliver these messages. Furthermore, a social marketing approach to framing messages was proposed. Clear monitoring and evaluation mechanisms against which progress can be measured were identified.

Table 1 | Basic steps of communication strategy development (Mefalopulos 2008)

| Step | Activities |
|---|--|
| 1. Define communication approaches or tactics | Select the most effective communication approaches (linear or transactional model) |
| 2. Define objectives (by reviewing the problem and its causes) | Develop a framework for objectives and levels of achievement |
| 3. Define target audiences | Decide which audiences should be targeted to achieve the objectives |
| 4. Define the type or level of change expected | For each audience: awareness, knowledge, attitude, behaviour |
| 5. Design messages or content topics | Define key content or messages and the most effective way to package them |
| 6. Select channels or media | Select the most appropriate channel or media for each target audience |
| 7. Define expected results and indicators that change has been achieved | Do this for each objective |

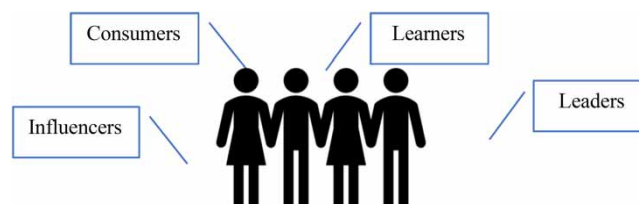


Figure 4 | Individuals in different roles in society.



Figure 5 | Changing learner roles over time.

Phase three: toolkit development and taking the strategy into action

To kick-start implementation, a toolkit of resource material was developed. The toolkit includes:

- an infographic that illustrates aspects of water use and reuse
- a mind map that shows how the infographic can be re-purposed in a water education programme
- a guideline presentation in PowerPoint and Prezi on best practices, lessons learnt, and practical guidelines for public communication on water saving and water reuse
- a basic water curriculum that includes water reuse. The curriculum was constructed from the literature review of this project, the stakeholder consultations, and the learning materials that the research team analysed, and
- a greywater poster aimed at Grade 6 learners, with associated lesson plans to be used across the curriculum.

It was evident from the stakeholder feedback on the toolkit that there is an urgent need for a central hub of resources from where all implementing institutions and the public can download and use educational material. Such a central hub would also be a platform on which institutions can share their resources and get peer feedback. The hub could also be useful as a forum to engage with the public. These engagements could be extended to social media channels.

Instead of a single implementing institution, the strategy proposes several implementing institutions. Implementing institutions were selected to align the proposed activities with their existing water-related education and communication activities. The Water Research Commission has taken the lead in consulting extensively with representatives of the proposed implementing institutions and substantial progress has been made in forming partnerships. Examples of some of the implementing institutions, their role, and progress in securing partnerships are discussed in the following:

- The DWS runs a School Interventions Programme, and the Water Research Commission has recently signed a memorandum of agreement with the DWS to support this programme. The programme is ideally positioned to include water reuse as a topic in its competitions and other activities. Water reuse can easily be added as a topic to these annual campaigns. Successful implementation relies on the buy-in of these institutions.
- The DBSA has taken up the role of coordinating water reuse through a National Water Reuse Programme. In this regard, the DBSA has partnered with various government departments, and it has submitted a funding proposal to the Green Climate Fund to support the design and implementation of the programme in South Africa. The Water Reuse Programme will aim to enhance water security and improve resilience to climate change. At the highest level, the Programme will encourage and support municipalities to implement water reuse and reclaim resources from wastewater (DBSA 2022). The Water Research Commission and other water sector experts participate as part of the community of experts supporting the roll-out of the programme.
- ‘Day Zero’ became synonymous with the City of Cape Town’s efforts to avoid running out of water by drastically cutting down on water use during the most severe drought recorded in the City’s history. Post the drought, the City recognised that it could no longer rely on surface water only, but that it had to augment its water supply capacity to meet the demands of the population and economic growth. The City’s new water strategy provides a roadmap towards a waterwise and resilient future. The roadmap includes a diversified supply from surface water, desalination, groundwater abstraction, managed aquifer recharge, and direct potable water reuse. The Water Research Commission has partnered with the City to provide and coordinate the research knowledge that is needed for the transparent and accountable implementation of the proposed

water reuse and desalination projects. To this end, the Water Research Commission has appointed an Independent Advisory Panel to guide implementation.

Phase four: monitoring and evaluation

Finally, the strategy identified indicators of success for each target audience and proposed activity, and suitable evaluation mechanisms. Examples of mechanisms proposed for monitoring and evaluating the successful roll-out of the strategy include, tracking public knowledge of water reuse and related aspects over time, reviewing overall implementation and addressing any gaps identified (Slabbert & Green 2020b).

CONCLUSION

In 2004, South Africa developed the first NWRS, which formally acknowledged the pivotal role of water reuse in augmenting water supply, and as a means for ensuring the sustainable use and management of the country's limited water resources. A decade later to the development of the strategy, only one potable reuse plant has been installed successfully in South Africa. The low pace in the implementation of water reuse was attributed to a lack of regulatory policies on water reuse, institutional and technical capacity to implement water reuse projects, shortage of skills within the municipal environment to plan and manage water reuse schemes, lack of financial resources, as well as low public acceptance. These challenges triggered the development of a dedicated National Strategy for Water Reuse that proposes a list of key interventions to overcome the identified challenges. Among these, the strategy calls for the development of a national communication strategy for water reuse. Building on the evidence drawn from the existing literature, the research team has put together a framework to be considered for crafting a communication strategy that can effectively bridge the gap between public perceptions and opinions on water reuse and acceptance in the realm of water reuse initiatives. The proposed framework considers the importance of understanding the specific context in which the communication strategy will be implemented with the use of a participatory approach, which is audience-centred. Furthermore, the framework emphasises the need to create messages that are contextually relevant and culturally sensitive. The multi-layered and coordinated approach that this communication strategy for water reuse proposes makes it useful for implementation, not only in South Africa but also in other countries striving to involve and educate the public to become water reuse literate. The framework is also applicable across various sectors and issues, making it versatile for addressing the multi-dimensional aspects of water reuse, as it can accommodate the complex interplay of technical, environmental, social, and policy factors that characterise water reuse projects.

DATA AVAILABILITY STATEMENT

All relevant data are available from an online repository or repositories.

CONFLICT OF INTEREST

The authors declare there is no conflict.

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