



TECHNIUM
SOCIAL SCIENCES JOURNAL

Vol. 81/2026
A New Decade for Social Changes



PLUS
COMMUNICATION P



International
Communication & PR

Analysis of Influence of Social Media on Water Resource Conservation under Stewardship of Lake Victoria Basin Water Board in Mwanza City, Tanzania

Sostheness Abeidinego Mganga, Peter C. Mataba, Sakina Faru

St. Augustine University of Tanzania (SAUT)

sosthenessmganga@gmail.com, petercmataba@saut.ac.tz, sakina.faru@saut.ac.tz

Abstract. Purpose: This study explored how Lake Victoria Basin Water Board's (LVBWB) social media practices influence public awareness, perceptions and conservation-related intentions among stakeholders in Mwanza City, Tanzania. The study interrogated platform usage, content characteristics, engagement dynamics and institutional practices to understand why digital visibility often fails to translate into sustained conservation behavior. Methodology: Purposive qualitative case study design was employed. Data sources included documentary review of LVBWB social media outputs and institutional materials (March–September 2025), non-participant observation at two outreach events and Key Informant Interviews from 14 purposively sampled key-informant interviewees with LVBWB staff, community leaders, fishing community representatives, youth group leaders and Non-Governmental Organisation environmental actors. Then data were grouped into themes and subjected to content analysis. Anonymized illustrative excerpts are included. Findings: Five interrelated themes emerged: (1) episodic and event-driven posting that produces transient salience rather than cumulative agenda-setting; (2) language and tone barriers, where formal or technical citations limit accessibility; (3) visibility without dialogue, where “likes” and impressions do not equate to participation or ownership; (4) local intermediaries as trust multipliers, with community leaders and youth champions essential for mobilization; and (5) institutional constraints (approval bottlenecks, limited communication capacity, and absence of formal feedback protocols) that inhibit two-way engagement. The study proposes a pragmatic hybrid communication model combining sustained social media practice, Kiswahili-first messaging, local co-creation and institutionalized feedback to bridge awareness–action gap. Unique contribution: This paper provides contextually grounded, actionable guidance for LVBWB and similar institutions in East Africa by integrating TAM-informed adoption insights with Public Relations and social marketing principles, while retaining strict fidelity to qualitative evidence.

Keywords. social media; water conservation; Lake Victoria Basin Water Board; institutional communication

Introduction

Communication is central to governance of public goods, for it shapes awareness, participation, perceptions of legitimacy and degree to which communities feel empowered to influence decisions that affect service design as well as use (Servaes, 2018; McQuail, 2010). In water governance, this is particularly acute because technical investments in distribution

networks and metering systems are necessary but insufficient for sustainable outcomes. Community ownership, understanding of tariffs and operations along with willingness to report faults or pay for services depend on ongoing, responsive communication (World Bank, 2017; Koppenjan & Klijn, 2004).

In Mwanza city, Lake Victoria Basin Water Board (LVBWB) has incorporated social media into its outreach mix. Social platforms offer low-cost visibility and potential for engagement, but they also risk reinforcing superficial interactions if used sporadically or without attention to language, inclusion, and feedback (Kaplan & Haenlein, 2010; Sabate *et al.*, 2014). Preliminary field reports indicated that while LVBWB posts generate attention, they seldom produce persistent public dialogue or measurable changes in conservation practice. Therefore, this study investigated how social media as practiced by LVBWB influences conservation awareness and action in Mwanza so as to identify mechanisms that convert online attention into offline stewardship.

In another vein, political and institutional context matters. Tanzania's national water policy emphasizes on stakeholder participation and community engagement (Ministry of Water, 2018), but implementing agencies often struggle to allocate adequate resources to communication. Rapid urbanization compounds the challenge in that urban wards such as those in Mwanza feature heterogeneous populations across age, education and digital access (TCRA, 2023). Such heterogeneity requires a hybrid approach to communications by combining reach (radio, public awareness systems) with interactivity (mobile/SMS, WhatsApp, social media) and face-to-face dialogue including community meetings (Daly & Kinsella, 2020; Osei-Tutu, 2021).

Statement of the Problem

Although LVBWB uses social media alongside other channels, empirical evidence suggests a mismatch between reach and influence because institutional social media often generates visibility without meaningful dialogue, leading to low perceived influence among residents and patchy participation in conservation activities. This threatens long-term stewardship because unresolved grievances and perceptions of unresponsiveness reduce trust and weaken compliance (Furlong, 2019).

Objectives

Main objective: The main objective of this study was to explore how LVBWB's social media practices influence awareness, perceptions and conservation-related intentions among Mwanza stakeholders.

Specific objectives:

1. To explore how communities in Mwanza City engage with LVBWB's social media platforms for water conservation purposes;
2. To evaluate quality and relevance of water conservation content shared by LVBWB on social media; and
3. To explore Mwanza residents and stakeholders' perceptions on water conservation campaigns disseminated through LVBWB's social media platforms.

Literature Review

This section provides a synthetic understating on literature review along theoretical review; empirical evidence and research gap. Empirical review is anchored on three themes: (a)

the role of communication in development and water-sector outcomes; (b) social media and hybrid channel strategies; and (c) two-way communication, feedback systems and public trust.

Theoretical Review

This study integrated three conceptual strands: Technology Acceptance Model (TAM) to interpret individual-level adoption and use of social media content (Davis, 1989); Public Relations (PR) two-way models to evaluate dialogue and institutional responsiveness (Grunig & Grunig, 2008); and Social Marketing Theory (SMT) to inform message design and behavior change strategies (Lefebvre, 2013). Together, these theoretical lenses further guided analysis of whether or not content is adoptable (useful, easy to use), whether or not institutional practice supports mutual dialogue and whether or not communications incorporate behaviorally-informed design.

Empirical Review

Communication and development outcomes

A substantial research tradition links participatory communication with improved development outcomes. Servaes (2018) argues that communication empowers local actors, shifting from top-down notification to collaborative exchange. Cornwall and Brock (2018) note that genuine participation in planning and monitoring increases ownership and accountability. In the water sector, community engagement that combines education, institutional channels and sustained dialogue correlates with higher uptake and maintenance of services (Bardosh, 2016; Hays *et al.*, 2019). Communication in such contexts serves both as means of information provision and as a mechanism for negotiating relationships along with expectations among stakeholders (Freeman, 2010).

Social media, hybrid approaches and the awareness–action gap

Social media has changed how institutions communicate because it enables rapid content distribution, visual storytelling and lower-cost mobilization (Kaplan & Haenlein, 2010; Veltri *et al.*, 2017). However, scholars caution that digital metrics (likes, impressions) do not reliably indicate behavioral change under the so-called awareness–action gap (Zilberman & Gordon, 2019). Studies emphasize on need for clear calls-to-action, repeated exposure and integration with offline channels to convert attention into participation (Sabate *et al.*, 2014; Chen & Sharma, 2020). In African contexts, hybrid strategies that combine radio, Short Message Services/Interactive Voice Response, community meetings and social media are increasingly recommended to manage heterogeneous access and literacy (Daly & Kinsella, 2020; Osei-Tutu, 2021).

Two-way communication, feedback systems and trust

Public relations frameworks foreground two-way communication as central to building relationships and public trust (Grunig, 2001). Feedback mechanisms, such as hotlines, suggestion boxes, interactive radio and WhatsApp/Telegram groups, allow the public to voice concerns and institutions to respond publicly, thereby building transparency and perceived accountability (Campbell & Cornish, 2010). If feedback systems are visible, timely and demonstrably acted upon, then community trust and willingness to engage rise (Furlong, 2019). Conversely, symbolic or poorly functioning feedback channels can exacerbate cynicism (*ibid.*).

Research Gap

While the literature provides robust guidance on hybrid channel strategies and feedback, empirical studies examining institutional social media specifically within Tanzanian water governance remain limited. This study addresses that gap by providing a qualitative, context-sensitive account of how LVBWB's social media practices intersect with local institutional dynamics and community conditions to shape conservation-related outcomes.

Materials and methods

Research design

Qualitative research approach along with case study strategy was appropriate for in-depth exploration of institutional practices and stakeholder meaning-making (Yin, 2018). The study intentionally prioritized richness over generalizability, aiming to identify mechanisms and practical levers for communication improvement.

Data sources and sampling

Three data streams were combined, namely, documentary review; non-participant observation and key informant interviews.

Documentary review involved LVBWB social media outputs (Instagram, Facebook archives where available), institutional press releases, posters and campaign materials produced between March and September 2025. The review assessed posting frequency, content types (informational, narrative, call-to-action), language, and visual characteristics.

Non-participant observation was carried out at two LVBWB-linked outreach events (a beach clean-up and an information session at a community hall) where field notes captured mobilization dynamics, attendance, and in-situ communication practices.

Key-informant interviews were carried out at 14 purposively selected key informant interviewees. They involved two LVBWB communication officers, two district environmental officers, three community leaders (ward/village), three fishing community representatives, two youth group leaders, and two Non-Governmental Organization (NGO) environmental experts. Purposive sampling ensured diverse as well as rich perspectives on direct experience of social media and community mobilization (see Patton, 2015).

Ethical considerations

Research clearance was secured from the institutional review board of Saint Augustine University of Tanzania. Participants provided informed consent, interviews were anonymized, and transcripts stored securely. The project file was used as internal data source.

Data collection and instruments

Semi-structured interview questions as Key Informant Interviews that lasted between 30 and 60 minutes helped to explore perceptions of LVBWB's social media usefulness, content clarity, trustworthiness, mobilization outcomes, and institutional constraints. Documentary checklist coded for frequency, content type, language, inclusion of calls-to-action, and indicators of interactivity (comments, shares, polls). Field notes complemented interview data with observational context.

Data analysis plan

Transcripts and documents were imported into NVivo for coding. Thematic analysis followed Braun and Clarke's (2006) six-step procedure - familiarization, initial coding, theme development, reviewing themes, defining themes and producing the report. Coding combined inductive and deductive approaches - initial codes emerged from the data - while deductive codes derived from TAM, PR, and SMT informed interpretation. Data sources enhanced credibility and member checks with three participants validated thematic resonance.

Findings

Thematic analysis yielded five core themes that explain how social media practices influence conservation-related awareness and participation in Mwanza. They included the following: (1) episodic posting and transient salience; (2) language, tone and accessibility; (3) visibility without dialogue; (4) local intermediaries as trust multipliers; and (5) institutional constraints and approval bottlenecks. We present each theme with illustrative anonymized quotes and documentary evidence.

Participant demographics (Table 1)

Table 1. Demographic characteristics of interview participants (n = 14)

Participant category	n
LVBWB communication officers	2
District/environment officers	2
Community leaders (ward/village)	3
Fishing community representatives	3
Youth group leaders/CBO representatives	2
NGO/environmental experts	2
Total	14

Source: project dataset, N = 14.)

The analysis revealed that LVBWB's social media communication was largely episodic, with posts clustering around special occasions such as World Water Day, beach clean-ups or institutional press briefings. Instagram showed the highest level of activity among reviewed platforms, yet posting generally averaged only one or two updates per month. According to one communication officer, posting rarely occurred outside major events because of resource limitations and lengthy approval procedures. By the time content was approved, it was often no longer timely. As a result, communication tended to generate short-lived spikes of visibility without sustaining long-term public attention. An NGO expert noted that people often responded enthusiastically to event-specific posts attending, taking photographs and sharing images but such momentum quickly faded if messages were not repeated consistently. This pattern reflects a broader agenda-setting challenge, for without frequency and repetition, conservation issues struggle to shift from occasional awareness to persistent public priority, as emphasized by McCombs (2014).

Another strong theme was the role of language and tone as determinants of accessibility. Many LVBWB posts relied on formal institutional English or technical Kiswahili, which participants said alienated or confused audiences with limited education or digital literacy. One fisher representative observed that technical terms discouraged community action because "people don't act when they don't understand." Participants consistently recommended straightforward Kiswahili messaging, short captions and locally recognizable visuals to make

content both relatable and actionable. Youth respondents emphasized on importance of providing very practical instructions such as meeting points, times and expected materials to support participation. These perspectives align with the Technology Acceptance Model's concept of perceived ease-of-use (see Davis, 1989), suggesting that messages must be simple to interpret if they are to meaningfully influence behavior.

A related issue was that social media visibility did not necessarily translate into dialogue or ownership. Many respondents described a pattern of "liking and scrolling," where users reacted to posts but rarely commented, asked questions or participated further. A community leader explained that posts often accumulated likes but the conversation "stopped there." Field observations supported this - when calls-to-action were reinforced offline, especially through community leaders or WhatsApp groups turnout for activities such as clean-ups was significantly higher. In comparison, events announced only through a single institutional post attracted minimal attendance. One LVBWB officer noted that community leaders reposts or verbal endorsements played a decisive role in mobilization. These findings show that visibility alone is insufficient. Instead, engagement and perceived local legitimacy are necessary to transform passive attention into active participation.

Importance of local intermediaries emerged strongly across interviews. Ward leaders, youth champions and community-based organizations served as trusted voices who could interpret, translate and contextualize institutional messages. Participants stated that when such figures encouraged others to participate, turnouts were markedly higher because community members trusted their judgement. As one community leader put it, 'if a ward leader made an announcement, residents typically acted, whereas posts from institutional pages alone lacked the same authority.' These intermediaries obviously amplified LVBWB messages through WhatsApp groups, community meetings and word-of-mouth, functioning as credibility anchors. Their influence echoes public relations literature on trusted messengers and social proof, which argues that institutional legitimacy is strengthened when messages are delivered or endorsed by familiar local actors.

Finally, institutional constraints significantly limited effectiveness of social media communication. One LVBWB staff reported that routine posts often faced lengthy internal approvals, with no delegated authority for rapid or real-time updates. A communication officer admitted that many posts became irrelevant by the time they were authorized. Similar challenges affected feedback management - suggestion boxes were rarely checked and direct messages sent to official social media accounts frequently went unanswered. Participants noted that unanswered reports such as pollution alerts discouraged further engagement and contributed to perceptions of institutional unresponsiveness. These bottlenecks undermined two-way communication and weakened public trust. Addressing them would require relatively small but important administrative reforms, such as granting posting authority for routine updates, creating pre-approved message templates and establishing a simple system for logging and responding to incoming queries.

Discussion

The findings show that social media's potential to influence conservation behavior is conditioned by three interlocking domains: content design (language and actionability), institutional practice (capacity and approvals), and community dynamics (intermediaries and digital access). Below there is an integration with theoretical literature and suggestion for pragmatic implications.

Agenda-setting theory indicates that frequency and salience increase issue prioritization (see McCombs, 2014). The LVBWB's episodic posting produced ephemeral salience and thus, to create cumulative attention, posts must be frequent as well as thematically coherent. A structured content calendar with weekly content and recurring themes (e.g., "Water Wednesday" tips) would support agenda-building and habit formation.

The TAM emphasizes on perceived usefulness and ease of use (see Davis, 1989). This study shows that usefulness in conservation contexts depends on clarity and concrete actions, for instance, where to report waste, when to attend events. Ease of use is improved by Kiswahili-first messaging and low-data content. Both are necessary for adoption and action.

The public relation's two-way symmetric ideal requires not only dissemination but also listening and response (see Grunig & Grunig, 2008). Social marketing insists on explicit calls-to-action and reinforcement. The LVBWB's practice demonstrates a two-way asymmetry: broad reach with limited responsiveness. Combining pre-authorized, simple response protocols with behaviorally informed messaging (small immediate actions; social norms framing) could help convert visibility into practice (see Lefebvre, 2013).

Trust is both relational and contextual. Local leaders and Community-Based Organizations (CBOs) bridge trust gap between bureaucratic institutions and everyday practice. Institutional partnerships and co-created content strengthen legitimacy and encourage replication. Providing small, formal recognition for local champions (like certificates, public acknowledgement) can institutionalize these partnerships.

Most identified barriers are organizational rather than technical: delegated authority, pre-approved templates, and minimal staffing adjustments can substantially improve responsiveness. Introducing a single communication focal point with clear public feedback log is low-cost and high-impact compared to infrastructural investments.

Recommendations

Based on themes and discussion, the following recommendations are proposed for LVBWB and similar agencies.

The LVBWB should adapt a structured social media calendar. It could encompass the following: weekly posts with a predictable mix; informational (operational notices); instructional (aspects residents can do); narrative (testimonials); and interactive (polls/Q&A). Such moves will enhance algorithmic visibility and public habit.

Other measures could involve Kiswahili-first, low-bandwidth content; Use plain Kiswahili captions, concise text, short videos (<30 seconds), compressed images and text-only through Short Message Services options. Importantly, they must avoid jargon and include clear, localized calls-to-action.

Further measures should include the following: co-create content with local intermediaries; partner with ward leaders, youth groups as well as CBOs to co-produce posts; use community photos/testimonials; and provide formal acknowledgement for local champions.

Also, they should institutionalize feedback and triage; set up simple channels. All can be carried out as follows: WhatsApp number for messages, SMS short code for illiterate users (IVR optional), and a public feedback log showing issues raised and responses. Importantly, they should commit to response timeframes (acknowledge within 48 hours; substantive follow-up within 14 days).

The LVBWB should delegate routine posting and create pre-approved templates. Moreover, LVBWB should authorize a communications focal person to post routine updates by using pre-approved Kiswahili templates to avoid approval delays for non-sensitive content.

Finally, the LVBWB should monitor and learn. In so doing, they should track simple indicators (post frequency, two-way interactions, event turnout) and review their content on a quarterly basis. Finally, in such pursuit, they should use small, rapid evaluations to test message framing and channel mixes.

Limitations and future research

This qualitative case study is context-specific and exploratory. While it provides rich, actionable insights, the findings are not statistically generalizable. Limitations include reliance on purposive sampling and limited access to platform-level analytics. Future research directions should include the following:

- Longitudinal evaluation of introduced feedback mechanisms to measure effects on trust and conservation behavior over time;
- Comparative studies across urban and rural water projects to identify context-specific best practices;
- Experimental interventions (A/B testing of messaging frames, channel mixes) to establish causal effects on participation; and
- Digital inclusion studies examining gendered and socio-economic patterns in digital access and how they influence participation.

Conclusion

The LVBWB's social media activity raises institutional visibility in Mwanza city but, by itself, it is insufficient for sustained public participation or ownership of conservation behaviors. Episodic posting, language barriers, lack of dialogue and institutional bottlenecks limit social media's behavioral influence. However, modest organizational changes are required - a Kiswahili-first content strategy, structured posting, delegated authority for routine updates, co-creation with local champions and a transparent feedback-and-response system. They can transform social media from a visibility tool into a participatory instrument for conservation governance. The measures are feasible, low-cost relative to infrastructure investments and they are likely to produce measurable improvements in trust, engagement and sustainable stewardship of Lake Victoria's resources.

References

- [1] Aker, J. C. (2011). Dial "A" for agriculture: A review of information and communication technologies for agricultural extension in developing countries. *Agricultural Economics*, 42(6), 631–647. <https://doi.org/10.1111/j.1574-0862.2011.00545.x>
- [2] Bardosh, K. (2016). *Global health governance and power: Assessing the intersections of global health, communication and governance*. Routledge.
- [3] Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- [4] Campbell, C., & Cornish, F. (2010). Towards a 'fourth generation' of approaches to HIV/AIDS management: Creating contexts for effective community mobilisation. *AIDS Care*, 22(S2), 1569–1576. <https://doi.org/10.1080/09540121.2010.516332>
- [5] Chen, P., & Sharma, A. (2020). Leveraging social media for environmental sustainability: A systematic literature review. *Information Systems Frontiers*, 22(6), 1627–1647. <https://doi.org/10.1007/s10796-020-10028-9>

- [6] Creswell, J. W., & Plano Clark, V. L. (2018). *Designing and conducting mixed methods research* (3rd ed.). SAGE.
- [7] Daly, T., & Kinsella, S. (2020). Hybrid communication strategies for inclusive urban development: lessons from East Africa. *Journal of Urban Affairs*, 42(5), 650–668. <https://doi.org/10.1080/07352166.2019.1615317>
- [8] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
- [9] Donner, J., & Tellez, C. A. (2008). Cell phone access and use in public health: A review of the literature. *Global Public Health*, 3(4), 356–368. <https://doi.org/10.1080/17441690701748546>
- [10] Freeman, R. E. (2010). *Strategic Management: A Stakeholder Approach* (1st ed.). Cambridge University Press.
- [11] Furlong, C. (2019). Trust, governance and service delivery: the role of communication in urban utilities. *Public Administration and Development*, 39(2), 95–107. <https://doi.org/10.1002/pad.1869>
- [12] Grunig, J. E. (2001). Two-way symmetrical public relations: Past, present, and future. In R. L. Heath (Ed.), *Handbook of public relations* (pp. 11–28). SAGE.
- [13] Grunig, J. E., & Grunig, L. A. (2008). Excellence theory in public relations: Past, present and future. In T. L. Hansen-Horn & B. D. Neff (Eds.), *Public Relations Theory II* (pp. 21–56). Routledge.
- [14] Hays, J., O’Neill, K., & Murphy, L. (2019). Community engagement and the sustainability of small-scale water projects. *Water International*, 44(7), 900–916. <https://doi.org/10.1080/02508060.2019.1647448>
- [15] Hilbert, M. (2011). The end justifies the definition: The manifold outlooks on the digital divide and their practical usefulness for policy-making. *Telecommunications Policy*, 35(8), 715–736. <https://doi.org/10.1016/j.telpol.2011.06.012>
- [16] Koppenjan, J., & Klijn, E.-H. (2004). *Managing uncertainties in networks: A network approach to complex governance*. Routledge.
- [17] Kaplan, A. M., & Haenlein, M. (2010). Users of the world, unite! The challenges and opportunities of social media. *Business Horizons*, 53(1), 59–68. <https://doi.org/10.1016/j.bushor.2009.09.003>
- [18] Lefebvre, R. C. (2013). *Social marketing and social change: Strategies and tools for improving health, well-being, and the environment*. Jossey-Bass.
- [19] McQuail, D. (2010). *McQuail's mass communication theory* (6th ed.). SAGE.
- [20] Murphy, M., Banda, F., & Keating, L. (2017). Radio and rural development: Reconsidering the impact of community radio in Africa. *Media, Culture & Society*, 39(6), 760–776. <https://doi.org/10.1177/0163443717718279>
- [21] Newman, A., Bartlett, J., & McGarrity, S. (2017). Communication as a vehicle for development: Lessons from applied projects. *Development Policy Review*, 35(2), 221–238. <https://doi.org/10.1111/dpr.12242>
- [22] Osei-Tutu, E. (2021). Communication strategies for urban water utilities in West Africa: Evidence and practice. *Utilities Policy*, 71, 101260. <https://doi.org/10.1016/j.jup.2021.101260>
- [23] Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). SAGE.
- [24] Sabate, F., Berbegal-Mirabent, J., Cañabate, A., & Lebherz, P. R. (2014). Factors influencing popularity of branded content in Facebook fan pages. *European Management Journal*, 32(6), 1001–1011. <https://doi.org/10.1016/j.emj.2014.07.001>

- [25] Servaes, J. (2018). *Communication for development and social change*. SAGE.
- [26] Tanzania Communications Regulatory Authority (TCRA). (2023). *Annual report 2023*. TCRA.
- [27] Veltri, G. A., Atanasova, D., & Pfisterer, M. (2017). Digital environmental communication. In *The International Encyclopedia of Media Studies*. Wiley.
- [28] Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425–478.
- [29] World Bank. (2017). *Communications for development: A practice guide*. World Bank Publications.
- [30] Zilberman, D., & Gordon, B. (2019). The awareness–action gap in environmental behaviour: Reflections. *Environmental Policy and Governance*, 29(5), 345–356. <https://doi.org/10.1002/eet.1869>