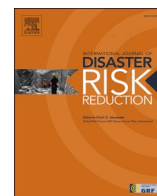




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Exploring the concept of strategy as practice in national disaster risk reduction: The case of Botswana

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ABSTRACT

The study investigates how strategy implementation is done for national Disaster Risk Reduction (DRR) in Botswana and what improvements can be made using the Strategy as Practice (SAP) lens. The extant literature rarely explores how DRR is done from firsthand experiences of those on the ground. This contrasts with conventional strategic management strategy in practice, that takes into consideration the process in which individual interactions and interpretations of organisational strategy influence the enactment of strategy on the ground. A qualitative case study approach was adopted, gathering data from staff implementing the DRR strategy at all three levels of the Botswana DRM institutional framework. Data was collected using semi structured interviews, focus groups and the nominal group technique.

Findings show that there is no formal DRM legislation in the country, meaning there are no legally required risk management systems in place. Due to this, DRR has historically been conducted without effective communication and coordination of DRR strategies and systems at national, district and village levels, as well as adequate technical, human and financial resources. The study recommends that a DRM legislation, sufficient training for DRR implementors, effective resource allocation as well as coordination and communication strategies and systems should be put in place to effectively mitigate disasters that the country may face in the future.

Abbreviations

Acronym	Definition
COVID-19	Coronavirus Disease
DDMC	District Disaster Management Committee
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
GHSI	Global Health Security Index
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
NCDM	National Committee on Disaster Management
NDMO	National Disaster Management Office
NDMTC	National Disaster Management Technical Committee
NDRMP	National Disaster Risk Management Plan
NDRRS	National Disaster Risk Reduction Strategy

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(continued)

NPDM	National Policy on Disaster Management
SAP	Strategy as Practice
VDC	Village Development Committee

1. Introduction

Evidence suggests that there are shortcomings in the Botswana Disaster Risk Reduction (DRR) and Disaster Risk Management (DRM) systems, which can have dire national development implications. These shortcomings include inadequate technical resources, no disaster risk budget, no dedicated DRM staff at district level, no national DRM legislation and insufficient mainstreaming of DRR in development plans [1]. All these aspects signify possible flaws in strategic planning and execution. Strategy is said to be a socially accomplished flow of activity that weighs heavily on the direction of organisations [2], however, a lot of theory in strategy focuses on organisational and industry levels of analysis, with little attention to human action. Strategy as Practice (SAP) was applied to this study to consider how practitioners mobilise practice tools and adopt certain skills and processes when partaking in strategy implementation [3–5].

Managing hazards, disasters and emergencies requires partnerships and collaboration between governments, the private sector, non-governmental organisations, experts as well as communities [6–8]. This is because their increasing frequency and magnitude is a threat to economic and sustainable development [9,10]. Although some African countries have made strides in the DRM and DRR space, implementation for others is not yet in line with international best practices [11,12]. This includes alignment with international frameworks and plans such as the 2015–2030 Sendai Framework for DRR and the Southern African Development Community Regional Indicative Strategic Development Plan 2020–2030. Risk reduction entails using systematic efforts to analyse and lessen the causal factors of disasters [13]. Furthermore, GIZ [14] highlighted the importance of risk-informed development. This encompasses comprehensive risk assessments for projects aimed to strengthen risk governance. Ignoring risk-informed development can lead to the intensified severity of hazards which result in multiple and systemic risks. Thus, when reducing risks is not given due consideration, countries end up being primarily responsive after disasters have occurred rather than being proactive in risk mitigation (see Fig. 1 for the DRM cycle).

The key research questions are: How is strategy implementation done for national DRR in Botswana? And what improvements can be made using SAP? The first research objective identifies the activities, processes and resources used in implementing the national DRR strategy. Secondly, perceptions of implementors across all levels of the DRM institutional framework on the current DRR implementation structures and initiatives prescribed by the national DRR strategy are explored. Thirdly, there is a formulation of an SAP framework targeted at promoting proactive DRR strategy implementation for Botswana which provides guidance on important issues such as: resource availability and intra-institutional development processes. Guidance on development activities for implementors which take into consideration current weaknesses in the system are also provided. Lastly, future researchable propositions on the subject area are highlighted.

1.1. Disaster risk management cycle

The DRM cycle classifies the interlinked activities into pre, during and post disasters. DRR falls under the mitigation phase of this



Fig. 1. DRM cycle.

Source: adapted from Ghaffarian and Taghikhah [15].

cycle.

Disaster mitigation entails strategies and actions taken to lessen community vulnerability to disaster threats. Risks are reduced through systematic efforts aimed at managing impacts of a hazardous event [16]. This is followed by disaster preparedness covering activities performed pre disasters to prepare communities for effective and efficient responses. It could be through, inter alia, building an effective information base, stock piling supplies, public awareness programmes and simulations [13]. The third phase constitutes disaster response which focuses on actions taken before, during and after a disaster occurrence. These actions are aimed to save lives and assist victims with their immediate needs [17]. Relief may include provision of food, shelter, water supplies, medical attention, and other essential amenities. The last phase is disaster recovery which entails reconstruction and rehabilitation post-disaster [18]. This includes restoring and improving living conditions of affected communities and initiating actions to reduce future causal factors of disasters in the future [19]. The paper contributes to the literature by offering a comprehensive qualitative analysis and critique of national disaster management in an African context and offers guidelines for its amelioration that have general relevance.

2. Background of the study

2.1. An international review: national disaster risk management implementation

Some of the current global and regional DRR/DRM instruments and structures include the 2015–2030 Sendai Framework for DRR which is adopted by United Nations member states as a blueprint on how to make communities safer and more resilient to disasters [20]. There is also the Africa Strategy for Disaster Risk Reduction Extended Program of Action and the SADC Regional Indicative Strategic Development Plan 2020–2030 [21], which recognises the critical role of DRM as a cross-cutting priority. Furthermore, the German government through their Global Initiative on DRM, commissioned by their Federal Ministry of Economic Development and implemented by GIZ supports the Southern African Development Community (SADC) secretariat's DRR unit in implementing DRR initiatives across the SADC region.

Countries around the world have also developed policies, plans, and strategies focusing on risk reduction. Most have some type of institutional framework in place operating at different levels of governance as per Table 1. In Malaysia DRM is coordinated by the National Disaster Management Agency, operating at the federal, state and district levels [7]. In Turkey, Caymaz et al. [22] explained that in 2009, the General Directorate of Disaster Affairs under Ministry of Public Works and Settlement, General Directorate of Civil Defence within the Ministry of Interior and the General Directorate of Turkey Emergency Management under Prime Ministry merged under the Disaster and Emergency Management Presidency, which has central and provincial levels. A study in Botswana on the evaluation of the national disaster management strategy and planning for flood management and impact reduction in Gaborone, found that the country has a DRM institutional framework in place which operates at three levels being the national-headed by the NDMO, as well as district, and village levels [23]. In South Africa, the National Disaster Management Centre, is responsible for monitoring the implementation of multidisciplinary DRM in various institutions (National Disaster Management Centre, 2008). Bang et al. [6] also found that in Cameroon the Directorate of Civil Protection within the Ministry of Territorial Administration and Decentralisation spearheads the governance of disaster risks.

Some of the challenges in DRR implementation include that some countries have no national DRR budgets, DRR information dissemination is not up to scratch, there is no follow through on plans, there is a lack of cooperation between stakeholders and countries are more reactive after disaster occurrences than in the implementation of DRR [7–9,24–26]. In consideration of the above challenges, there should be a mobilisation of resources-engaging experts, investing in effective early warning systems, and capacitating local communities [6,8,27]. Additionally, there should be proper stakeholder engagement plans and strategies [28], as well as a timely review of plans, strategies, and policies to keep up with emerging challenges [22,29].

Table 1
National DRM coordination and governance levels.

Country	National DRM Coordination Office	Governance Levels
Botswana, PreventionWeb [23]	National Disaster Management Office within the Office of the President	National, district, and community
Cameroon, Bang [33]	Directorate of Civil Protection within the Ministry of Territorial Administration and Decentralisation	Central and local government
South Africa, Cooperative Governance and Traditional Affairs (COGTA), [34]	National Disaster Management Centre under the Department of Cooperative Governance and Traditional Affairs	National, provincial, district and local (for district municipalities) and national, provincial and metro (for metro municipalities).
Malaysia, Chong and Kamarudin [7]	National Disaster Management Agency under the Prime Minister's Department	Federal, state and district
Turkey, Caymaz et al. [22]	Disaster and Emergency Management Presidency	Central and provincial
United States of America, Federal Emergency Management Agency [35]	Federal Emergency Management Agency- Under the US Department of Homeland Security	Federal, state, local

Source: Table produced by author.

2.2. An overview of the disaster risk management system in Botswana

Botswana is prone to disaster threat, and predominant risks in the country include drought, wildfires, floods, motor vehicle accidents as well as epidemics Emergency Events Data Base [23,30,31]. To address the risks highlighted above, there is a national DRM institutional framework in place (Table 2), consisting of coordinators and implementors of DRR and DRM within the country. The country has early warning systems [1] and there are also national DRR/DRM guiding documents which include the National Policy on Disaster Management (NPDM) 1996, the National Disaster Risk Management Plan (NDRMP) 2009, and the National Disaster Risk Reduction Strategy (NDRRS) 2013–2018. The NPDM 1996 states that since 1981, Botswana had been experiencing recurrent drought periods. To address this factor, government developed effective early warning and response measures [32]. The existing policy further highlights that before 1996, no disasters other than droughts were properly taken into consideration in disaster planning. The NDRMP 2009 provides a framework in compiling DRM guiding principles established by the NPDM 1996. However, the plan went beyond the policy by adopting multi-sectoral and multiple-level techniques for assessing disaster risks and response to meet DRM global standards. The NDRRS 2013–2018 guides the implementation of DRR across various sectors in Botswana and, raises awareness on methods and opportunities to reduce disaster risks [1]. The NDRRS highlights the fact that specific districts have developed DRM contingency plans [1], identifying and addressing potential hazards, community vulnerability and formulating preparedness, response and recovery plans. However, there is currently no legislation on DRM in Botswana [1].

The National Disaster Management Office (NDMO) is located at the Office of the President for quick decision making. The NPDM 1996 makes no mention of the current NDMO as it was only established in 1998 [32]. However, there was a National Committee on Disaster Preparedness in existence formed in 1993 to address preparedness matters. This committee was partly established to provide a channel for Botswana's active participation in the United Nation's International Decade for Natural Disaster Reduction in the 1990's [32].

There have been challenges within the Botswana DRM/DRR system (see Section 1.0), despite these measures being in place. Also, prior to the outbreak of the Corona Virus Disease (COVID-19), the Global Health Security Index [36], ranked Botswana 139 out of 195 countries least prepared to deal with epidemics and pandemics in the world. The position has since improved with the 2021 ranking at 108 out of 195 countries [37]. The index categories are compliance with international norms, prevention, detection and reporting, risk environment, rapid response and the health system. This finding was not shocking considering that at the start of the pandemic, the country was reported to have only 70 ventilators at the Sir Ketumile Masire Teaching Hospital (this was Botswana's high-care referral centre for COVID-19 patients) [38]. The small number of ventilators relative to a population of about 2.5 million people at the time [39], highlighted preexisting resource capacity issues. Fast forward to COVID-19, Government had to implement extremely robust response and recovery measures to cushion citizens against the health and economic aftermaths [40,41]. Notwithstanding the fact that many countries were affected badly by the pandemic in many and unexpected ways, perhaps the impacts in Botswana were amplified by the already existing weaknesses in the DRM system.

2.3. Strategy as practice as an alternative perspective to traditional strategy

Most strategy theory focuses on the formulation of strategies by top management and effectively cascading these to staff at different levels within organisations. It also emphasises formal planning and a rational distribution of resources to meet set objectives. The SAP approach is distinct from traditional strategy in that it considers the micro aspects of strategising, focusing on actors within organisations and the work they do [5]. There are three SAP research parameters: praxis, practices, and practitioners [42].

In relation to praxis, Balogun and Johnson [43] found that middle managers' informal interactions taking place daily can mould sensemaking necessary for strategic change. Similarly, Samra-Fredericks [44] discussed the importance of the talk-in-interaction between strategists in decision making, while Jarzabkowski and Seidl [45] concluded that the way meetings are conducted is important to how strategic matters are brought up and gain traction. On practices, Ikavalko [3] discovered the dominance of backstage activities in strategy implementation among middle managers in her study on the strategy process in practice. These backstage

Table 2
Botswana DRM institutional framework.

Structure	Role
Office of the President	Ensures the security, social and economic well-being of citizens.
National Disaster Management Office (NDMO)	Oversees and monitors activities throughout the whole DRM cycle in the country, putting tools, systems, and structures in place.
National Committee on Disaster Management (NCDM)	Formulates DRR policies and coordinates related activities. Consists of Deputy Permanent Secretaries from all ministries, leadership from various government departments and has representation from the United Nations, Red Cross Society and Non- Governmental Organisations. The NDMO provides secretarial support to the NCDM.
National Disaster Management Technical Committee (NDMTC)	Provides DRR technical advice to the NCDM and NDMO. Consists of professionals and specialists from all ministries, other governmental and nongovernmental organisations.
District Disaster Management Committee (DDMC)	Present in every district to oversee implementation of activities throughout the whole DRM cycle. Made up of all government departments in the districts. They develop district DRM plans.
Village/Ward Development Committee (VDC/WDC)	Made up of elected community members, who work with <i>Dikgosi</i> (Chiefs) to coordinate activities throughout the whole DRM cycle in communities/villages. They develop community/village DRM plans, facilitated by the DDMC.

Source: adapted from the PreventionWeb [23].

activities are embedded in unofficial intensive communication at any point, as opposed to those in defined and scheduled settings. Telephone calls, meetings [46], strategic management frameworks, analytic tools and models are some of what has in the past, been classified as practices [47], however, SAP involves more than such simplistic classifications. It is also important to consider how practices are done as well as how their doing shapes strategy [48]. Under practitioners SAP identifies a broad group of potential strategists. These can be middle managers and lower-level employees [49,50], corporate level strategic planners [51], external actors from an organisations formal structure such as non-executive directors [52], customers [53] and consultants [54].

3. Methodology

The article is based on inductive and exploratory research with no past substantial data on the subject area. Gathering the research data, which took roughly a year to complete, was carried out in 2022–2023. It is a single case study research method as in Caymaz et al. [22]; Cheema et al. [25]; Chong and Kamarudin [7], who studied DRM and disaster management structures in different countries. The interpretivist paradigm applied emphasises socially constructed multiple realities [55]. It was based on the social constructivism theory with data collected from implementors of the national DRR strategy, who have lived experiences in this subject matter. Constructivists are of the opinion that in as much as knowledge can be given, understanding cannot be [56]. The research was qualitative, and this reinforced the interpretation and understanding of meanings attached to participant's constructions. The participants targeted were from the three levels making up the country's DRM institutional framework: national, district and village as presented on Table 3 below.

Participants at national level were mainly for background as they formulate the national DRM strategy and oversee its implementation. These national level participants were senior management at the NDMO and were identified through purposive sampling [57]. The sampling was based on their experience and level of responsibility in DRR coordination. Participants at district and village levels were the backbone of the research, being implementors of the DRR strategy.

The participant selection at district level was guided by the 2019 natural and technological disasters digest statistics document. This document detailed a list of local authorities reported to have adopted and implemented DRR strategies between 2014 and 2018 [31]. This list initially comprised of eight districts, however, four more were later added based on data collected from the NDMO, in June 2022. Following several attempts to reach out and unresponsiveness in certain districts, the author narrowed the sampling criteria. It entailed those reported to implement DRR initiatives at district level (having submitted their area DRM plans to the NDMO), while also having experienced two or more of the main disasters and hazards between the years 2001 and 2019 [31]. These disasters and hazards included wildfires, floods storms, heavy rains, droughts, mine accidents and road transport accidents. The final list was made up of six districts being Ghanzi, North- East, Kgatleng, Southern, Chobe and the Jwaneng district.

The targeted participants at district level were DDMC's responsible for the coordination of DRM in districts and the district commissioners who chair these committees. The DDMC's develop district DRM plans and oversee implementation. Purposive sampling was used for participants at district level considering their experience in DRR implementation. DDMC's are made up of about 20 members (on average) from government departments operating within the districts. However, targeted participants were only from departments that are actively involved in addressing prevalent disasters in the country. These include the water, fire, meteorological, health, forestry, education, Botswana police service as well as the crop production sectors. When it came to village level participation, the NDRMP 2009 states that DRM should be spearheaded by VDC's under the leadership of *Dikgosi* (chiefs), as such VDC chairpersons from villages that fall under the targeted districts were the chosen participants [23]. VDC's exist in all villages and are responsible for all village development matters [58]. Furthermore, according to the national DRM plan, VDC's should develop and implement community-based DRM plans, facilitated by the DDMC's [23].

Multiple data collection techniques were used which allow for a comprehensive understanding of the matter under study [59]. The techniques used include a document review of the Botswana national DRM guiding documentation, that is, the NPDM 1996, NDRMP 2009, and the NDRRS 2013. The document review was done to get a background on DRM activities in the country as well as to guide the trajectory of questions in the empirical study [60]. This was followed by semi-structured interviews, focus groups and using the nominal group technique. The semi structured interviews were conducted with national level participants and district commissioners, while focus groups were with DDMC members. Lastly, the nominal group technique sessions were for the umbrella VDC's made up of VDC chairpersons from villages across the districts. Purposive sampling was applied for the nominal group technique as these umbrella

Table 3
Data collection methods against the sampled population.

Disaster risk management institutional framework (levels)	National	District	Village/Community
Data Collection Method			
<i>Semi- Structured Interviews</i>	Two participants in management at the NDMO.	Six District Commissioners heading DRM in the selected six local authorities.	10 % of VDC chairpersons from villages that do not have/belong to umbrella VDC's. (11 Chairpersons)
<i>Focus Groups</i>		Six DDMC's from the six local authorities (with a total of 34 people).	
<i>Nominal Group Technique</i>			VDC Chairpersons from villages with umbrella committees. (35 Chairpersons across all villages.)

Source: Table produced by author

committees are found in the largest villages within the districts, thus have a wider representation of the population. Following that snowball sampling was used for semi structured interviews conducted with 10 % of VDC chairpersons from villages that do not have/belong to umbrella committees within districts.

Most questions asked in the semi structured interviews and focus groups were open ended with only one Likert scale question. The open-ended questions allowed discussions, flexibility and probing [61]. Unlike the other data collection methods, the nominal group technique had far less questions because it takes longer to complete. It calls for participants to first write their answers down, share them with the group and discuss prior to elimination of options and ranking of results. To increase the author's chances of obtaining in-depth and relevant data, the data collection instruments, consent form and participant information sheets were translated into Setswana for village level participants. Translation of these documents followed findings by Serema [58] in a study on community information structures in Botswana. In the said study, VDC members explained that they do not use libraries as they are for students who are able to read and write. Furthermore, a VDC chairperson mentioned that it is at times hard to read, understand and comment on certain documentation written in English.

The document analysis entailed working through documents, direct translation of data collected from Setswana to English for some village level participants, in-depth reading, and interpreting data [62]. This process started with content analysis to identify relevant data [63], moved to thematic analysis to recognise patterns in the data and finally a construction of categories and themes according to the research objectives [64]. Empirical data was transcribed, anonymised, coded (using the Atlas.ti software), and analysed to find links between identified themes. Key theme summary statements were developed giving detail and finally incorporated into the research write up. These key themes were also consistent with the research objectives, detailed in Section 4.0 of this paper. Data saturation was reached at the fifth district; therefore, the sixth district was used for validation. Data collection for validation was conducted online and over the telephone due to circumstances beyond the author's control. The participants at village level hardly have access to internet and computers, hence the use of telephones to engage with them. The research findings may not remain consistent with repeated investigations as there can be multiple realities with different experiences at different times. However, the author provided adequate detail for the reader to understand the context and meanings attached to what is being presented. Records of the research path were kept throughout the study and are explained briefly in this article.

3.1. Ethical considerations

The study was guided by strict ethical procedures. First and foremost, the author had to ask for permission to carry out the study in Botswana, from the Ministry of State President which oversees the operations of the NDMO. The study also had to be approved by the Human Research Ethics Committee (Non- Medical) at the University of the Witwatersrand. Moreover, participation was voluntary with written consent being sought from all participants prior to data collection [65]. Consent also included permission to audio record the data collection exercises. Participants were guaranteed that their identities would not be revealed in the data analysis and research write-up.

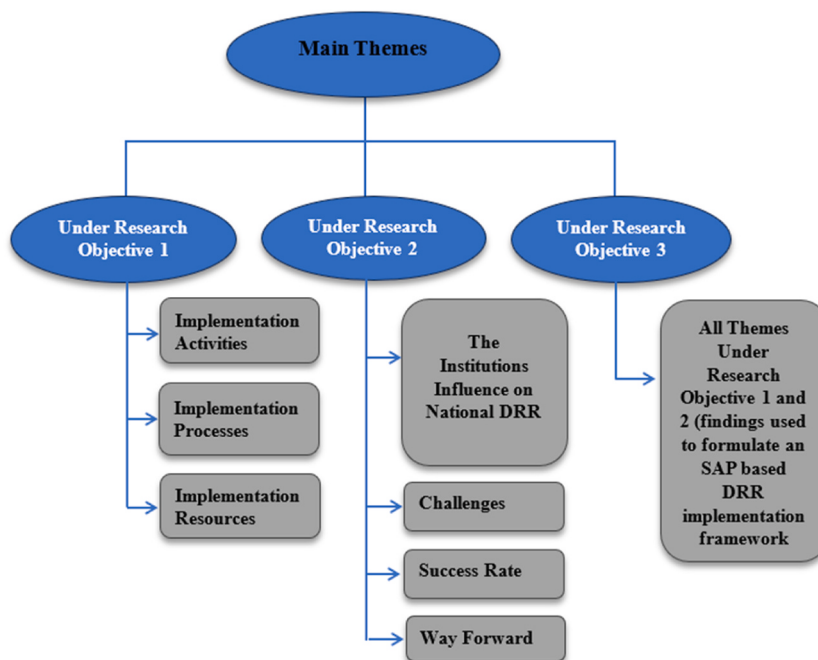


Fig. 2. Summary of themes.

Source: Figure produced by author.

3.2. Limitations to the study

- The study uses qualitative in-depth case study analysis in one African context which limits the generalizability of its findings.
- Reliance on self-reported information can introduce bias. Validity could be enhanced by the adoption of triangulated methodology.
- Timelines had to be pushed back because of various approval and permission processes with the Government of Botswana's Ministry of State President that oversees the implementation of DRM.
- Access to all the districts previously targeted for sampling was not always possible.
- Sampling criteria had to be narrowed to focus resources and time on a limited number of districts.
- Semi structured interviews, focus group and the nominal group technique at district six had to be conducted online and over the telephone.

4. Results and discussion

The study attained a response rate of 76.5 %. The themes obtained from the data collected have been summarised in Fig. 2 below. The themes are divided in accordance with the three research objectives. The documents reviewed only covered the first research objective on the activities, processes and resources utilised in implementing DRR in Botswana. The empirical study covered all the three research objectives. Most findings at the validation district were in line with findings from the other five districts, there were no significant variations identified. Thus, when the author states 'all village/district participants' or 'most village/district participants' it is inclusive of the validation district. However, where there are notable differences, these are highlighted.

4.1. Research objective one

To identify the activities, processes and resources used in implementing the Botswana DRR strategy.

4.1.1. Implementation activities

All the national and district level participants indicated that they coordinate DRM activities within their respective areas. These coordination roles were also prescribed by the national DRM guiding documents. Most village level participants stated that they should be spearheading DRM activities in their villages, however, they are not involved as much as they should by the district and national level DRM institutions. Both the national level participants further indicated that DRM activities will soon be restructured; the NDMO will coordinate national strategic emergency management and general policy issues, while the on the ground implementation of DRM will be delegated to the districts and villages, coordinated by the Ministry of Local Government.

From the Likert scale, the common implementation practices at national level include projects, emails, networks and partnerships, budget monitoring and reporting as well as training. Most district level participants highlighted meetings, training, organisational planning, budget monitoring and reporting, unofficial discussions with co-workers, networks, and partnerships as well as operational and performance objectives. On validation, district six participants included the use of letters and induction training. It appears all district level participants are familiar with most of the practices on the Likert scale and may have applied them a few times before in DRM but mostly in their other work roles. They stated that their ratings are not on the implementation practices they are currently frequently using but rather on how they would like to implement disaster mitigation in future.

All village level participants specified that there is not much, if any, DRR activity in their areas. Only village level participants who have previously been employed (the minority) were exposed to some of the practices listed in the Likert scale, most were not familiar with them. The participants who were not familiar with the various implementation practices requested the author to explain what those entailed. They then rated the implementation practices not based on what they have used or are using, but rather, on which implementation practices they perceive would be important in DRR implementation. They chose training, rewarding, informative meetings, unofficial discussions with coworkers, budget monitoring and reporting as well as projects. District six participants at village level also mentioned the use of notice boards.

Unofficial discussions with coworkers was also highlighted by Ikavalko [3] in her study. She concluded that there was predominance of informal discussions in what she called 'enabling experiences' among middle managers. This points to the fact that a significant amount of strategising and strategy enactment must be occurring in the office corridors, other than traditional meeting places. The national documents reviewed also stated the importance of training, networks and partnerships, budgeting, information dissemination and engagements, although there were no clear engagement plans. Information and Communication Technology practices were not highly rated by participants at district and village levels. One of the district commissioners alluded to the use of letters stating that some members of the DDMC still have challenges with using the internet. Moreover, at national level, one of the participants also spoke of how national committee physical meetings were halted during COVID-19, and they have not had any meetings since (both physical and online). The author is of the opinion that the pandemic presented technology advancement opportunities. This is line with Zammuto et al. [66] explanation that with Information and Communication Technologies, there should be new arrangements in organisational functions that complement the new fast paced world. However, with all benefits of the digital era, organisations must find a balance to alleviate employees of the pressures around performance expectations, easy access, and an invasion of privacy [67].

4.1.2. Implementation processes

A similar theme amongst many participants at district and village level is that the country is more responsive after disasters have

occurred than any other stage of the DRM cycle [6,8]. Most participants stated that more can be done to improve DRR implementation. However, one national level participant had a differing opinion stating that the country is active on all stages of the DRM cycle. The participant shared that there are measures in place to reduce disaster risk, prepare for the eventuality of disasters, respond to disasters as well as assist disaster victims in recovery.

The findings show that engagements across the DRM institutional framework are mostly as and when needed, especially following disasters. That is when districts would contact the NDMO to report incidents and ask for support or when districts would contact VDC's for assistance on identifying disaster victims. One participant at district level stated: "We engage the village level when there is an emergency, then the concentration will be maybe on those affected. But we are very much aware that we need to engage them. Most times it will be the area councillor saying we should check on affected villages and report on the incident. But we are very much aware that we must get in touch with the village level structures often." Some district level participants highlighted that the NDMO also contacts districts occasionally before disaster seasons to confirm their level of preparedness. They further stated that the NDMO has in the past conducted national roadshows to assess the DRM status quo (although these are few and far between). Furthermore, prior to COVID-19 there were annual national preparedness conferences/forums which brought districts together to discuss DRM matters. However, the national guiding documents reviewed prescribe regular engagements and monitoring of DRR activities throughout the DRM institutional framework, which does not seem to be the case presently.

On another note, most participants at district level indicated that their district DRM plans submitted to the NDMO, have never been evaluated and updated since they were formulated. Only a few district level participants stated that they have personally been part of DRM plan evaluations although they are not certain whether the reviewed versions were ever fully completed and submitted to the national office.

4.1.3. Implementation resources

The current national strategy (NDRRS) was designed for the five-year period of 2013–2018 and has not been reviewed to date. There were recommendations on the evaluation timing that appear to not have been followed. The first review was scheduled for 2016 (three years into implementation), with subsequent annual evaluations. Furthermore, the 2009 national DRM plan has also not been updated following immense changes in the environment over the years. For instance, climate change, the outbreak of the COVID-19 pandemic and other cross cutting issues e.g. gender matters as advocated by Ngozi [29]. Both national level participants did however indicate that they have just completed a process of reviewing the 1996 NPDM and are currently waiting for presentation to parliament. They stated that the review of the NDRRS 2013 and NDRMP 2009 will follow parliament approval of the policy. The VDC and DDMC members have never seen these national DRM guiding documents, some have never heard about them, and thus are not aware of the specific national objectives related to DRR. Furthermore, Botswana currently has no DRM legislation, but both national level participants explained that Cabinet has approved drafting of such a legislation. The research findings further revealed that all the villages do not have village DRM plans as advised by the national plan [23]. Most participants expressed that there are no dedicated DRR funds at both district and village level.

All participants expressed that stakeholder collaboration is pertinent for DRR [28], because there is limited capacity and resources. They mentioned that there should be strong cooperation between governments, private institutions, experts as well as the community [25], which is currently not as it should be. On the issue of skills training, the participants mentioned that there is no regular DRR training availed at district and village levels. Some have not been inducted since joining the committees at different levels of the DRM institutional framework. They further mentioned the importance of acquiring organisational skills, risk profiling skills and basic response skills such as first aid, swimming, and fire extinguishing. The NPDM 1996 stated that training will be offered for government implementors and non-governmental organisations through training and educational institutions. However, the Ministry of Local Government- Revised District Planning Handbook [68] highlighted that prior to training, districts should assess the training needs of role players and community members through completion of surveys. According to the author, the surveys would not be effective because based on this study's findings, village level structures currently do not have sufficient awareness on DRR. Thus, they would not know what they specifically need to be trained in. A training needs analysis should be conducted by an expert in the field.

4.2. Research objective two

To explore implementors' perceptions at all levels of the DRR institutional framework on current DRR implementation structures and initiatives prescribed by the national strategy.

4.2.1. Influence on national DRR strategic initiatives

Both participants at national level believe that they have influence on national DRR strategic objectives. One of the examples given at national level was receiving approval to draft a DRM legislation that they advocated over the years. Many of the participants at district and village level, do not believe that they have enough influence on national DRR strategic objectives because they say they are not involved enough in DRR planning and strategising. However, the participants at national level indicated that they do engage the staff at different levels of the DRM institutional framework in their DRR planning.

4.2.2. Challenges

Findings at national level highlight that implementors at the district and village levels do not give DRR due consideration because it is not their core mandate. The DDMC's for instance, are only involved in DRM matters by virtue of working in various government departments operating in districts, they have other responsibilities. Both national level participants also mentioned that the nonchalant

approach to DRR matters also trickles down to the community, if it does not affect them, they are not interested. In the same light, some district level participants indicated that certain district government stakeholders are uncooperative and unwilling to assist when needed. This being the reason why some participants at national and district level mentioned the lack of DRM legislation as an impediment to holding non-performing service providers accountable [8]. One of the national level participants further stated that there is no maintenance of required service standards by some government departments. For instance, there would be the construction of homes near rivers and construction of bridges without proper drainage systems, among others.

Most participants at district and village level believe that the national DRR strategy is not cascaded properly to them as DRR strategy implementors, and they do not receive enough training to implement DRR effectively. A participant at district level said: "... and then the other thing is this open gap that, there will be a plan or strategy that has not been cascaded. Cascading is very important because it enhances ownership, for us to know what is happening at national level, so that we can also inform our individual departments and be informed as a committee." They further stated that there are no clear platforms and channels of engagement to provide feedback and recommendations. Most village level participants further highlighted that they in fact have little knowledge on the subject matter. This finding goes against the national guiding documents that prescribe promotion of DRM community awareness. Samuel et al. [8] stated that the development of DRM strategies and policies should involve the community as they are always the first victims of disasters. All participants at district and village level also say there is a lack of technical resources and funds, as well as capacitated manpower, like findings in Ashu and Van Nierkerk [24]; Bang et al. [6]; Cheema et al. [25]; Samuel et al. [8]. A participant in the validation section at district level stated that they have at times had to source funds from individual departments for disaster matters because there is no dedicated budget allocated to the DRR implementing committees.

Many participants at district and village levels expressed that the government's disaster response which often extends well into the recovery stage, including provision of temporary shelter in the form of tents and food distribution, is short term and lacks long-term sustainable planning. This is particularly in areas that are historically proven to be disaster prone. Some of the participants at district and village levels stated that in some areas the same hazards and disasters occur annually, and thus, short-term disaster response/recovery measures do not strengthen resilience for victims against future incidents [18]. They believe that for instance, permanent structures could be built for victims of annual floods, as opposed to the costs of annually providing tents and food for them. A few of the district level participants mentioned that to some extent their complaints are being heard as more non-governmental organisations are coming to the forefront to collaborate in general DRM matters.

4.2.3. Success of implemented DRR initiatives in reducing impacts

The findings at national level were split, one participant being of the view that DRR initiatives implemented have been very successful at reducing disaster impacts while the other believes that more can still be done in this regard. District level findings also reveal that there is a lot that still needs to be done on DRR in districts. Most village level participants could not state whether they have been successful because they maintain that they are not very knowledgeable on the matter. Only one participant at village level explained that the roads in his village are 60 % complete, the area is flood prone and thus, this development will go a long way in reducing flood risks.

4.2.4. Way forward

Both national level participants stated that the anticipated DRM legislation will be a game changer in DRM matters. This legislation will ensure that DRM principles are upheld and required standards are maintained in government service provision. A national level participant highlighted the importance of a DRM legislation saying "When you want a report from a sector, it would probably take you a while to get that report, whereas it should be standard. They (implementors) will now be compelled to be more efficient." All participants highlighted the importance of capacity building within the DRM institutional framework. Most participants at district and village levels also cited among others the need for regular engagements among stakeholders, educating and creating awareness, as well as evaluating DRM plans to adapt to the changing environment. Most district and village level participants also mentioned the importance of training for implementors and the community. A village level participant said "I believe training is very important especially for people who do not have the right or enough knowledge on the subject matter like us. It puts us in a position to know and understand what we must deal with" [directly translated from Setswana]. Many participants at district and village level called for the institution of focal points within districts, dealing solely with DRM matters. This is because the DDMC's do not seem to have enough capacity to deal with DRM/DRR considering that they have other job responsibilities. Some participants at village level even called for the establishment of dedicated DRM units at district level, capacitated with highly experienced experts like in the recommendations of Lukumba [10].

Most district and village level participants called for resource mobilisation and a dedicated DRR budget. They expressed the need for the budget to be possibly decentralised to district level. A participant at district level said "We have got to ensure that we have a DRR budget so that we have control over what we plan for. We also need to empower especially our communities by resourcing them." Some of the implementors called for a bottom-up management approach as in Coetzee and Van Niekerk [69] and Chong and Kamarudin [7] or a combination of the bottom-up and top-down approaches. They believe that they are the ones who know what the needs are on the ground. Similarly, the NDRRS 2013 also called for a bottom-up approach for effective DRR implementation [1].

4.3. Research objective three

To formulate an SAP framework targeted at promoting proactive DRR strategy implementation for Botswana, through providing guidance on important issues such as: resource availability, development of processes within implementing institutions and guidance

on development activities for implementors which take into account current weaknesses in the system.

The findings of this study are mainly targeted at the NDMO and policy makers to appreciate the status quo of DRR in the country from the experiences of implementors. As such, following an in-depth analysis, the research findings informed the development of a comprehensive SAP based DRR implementation framework with an aim to promote proactivity and efficiency within the Botswana DRR system (see Fig. 3).

5. Proposed framework

Fig. 3 presents the framework formulated to address objective 3 of the study. Under the strategy implementation stage of the strategic management cycle, there is detailing of proposed activities guided by the three SAP research parameters: praxis, practices and practitioners identified by Whittington [70]. Certain identified activities on the recommended framework, are guided by findings collated by Vaara and Whittington [47] from various studies. The ones applied were customised in consideration of this study's objectives.

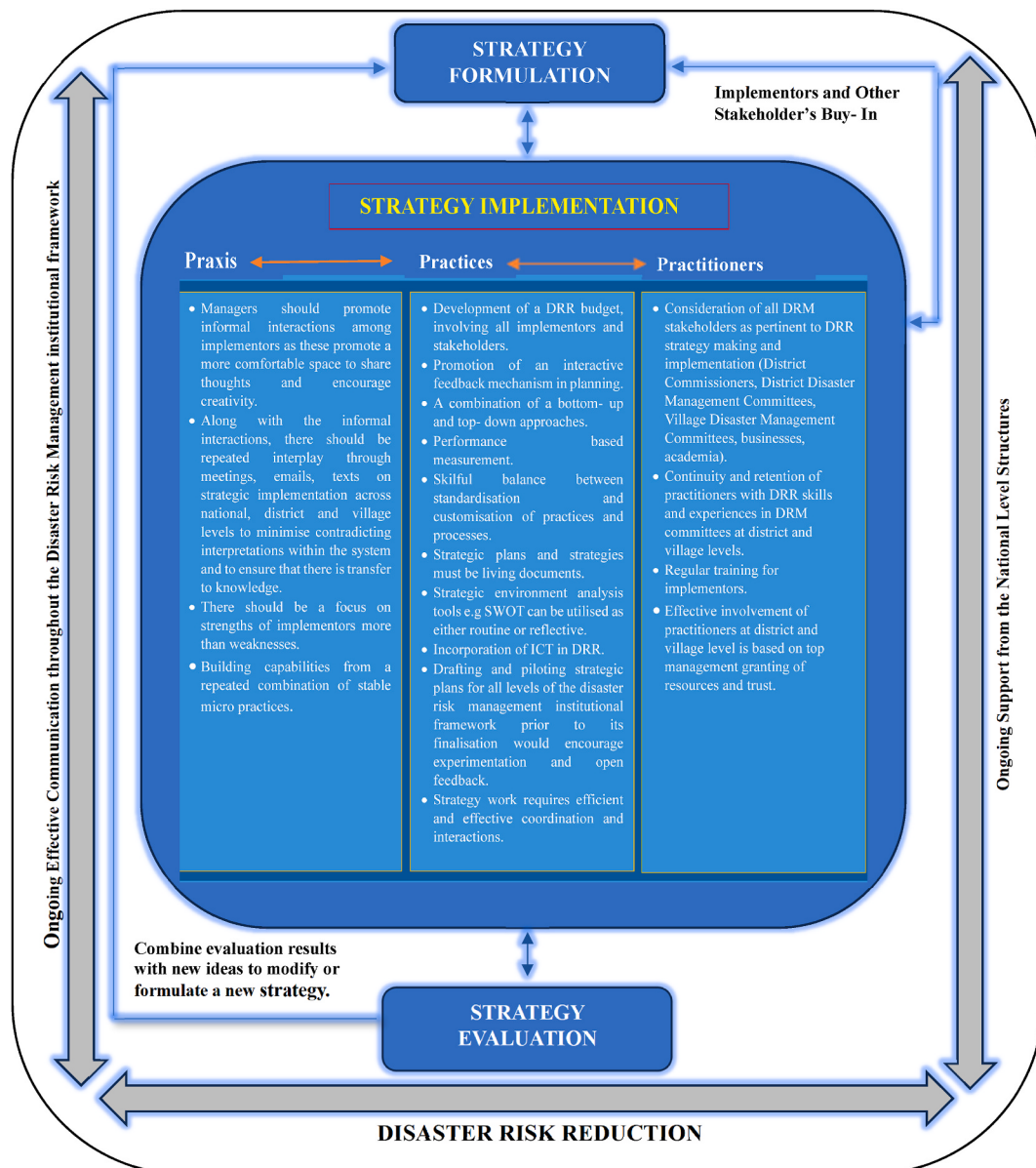


Fig. 3. Proposed SAP based DRR implementation framework.

Source: Figure produced by author.

5.1. Discussion of the framework

5.1.1. Strategic management process

There are three main stages of the strategic management process on the framework, as identified by David [71]. The lines with arrows at both ends between the three main stages represent that if at any point during a particular stage there is realisation that the strategy is flawed, there can be a movement back to the drawing board without having to go through the sequential steps of the process. The arrow moving from strategy evaluation to strategy formulation shows that, evaluation results can be merged with new and innovative ideas to tackle changes in the organisations environment, in the process of modifying or developing a new strategy.

5.1.2. Praxis, practices and practitioners

Within strategy implementation are the three SAP research parameters namely: praxis, practices, and practitioners [42]. Based on the findings, the author formulated a micro level analysis on the activities that are considered small but can possibly transform strategic activity over time. The arrows between the parameters indicate that these parameters can have an impact on each other. For instance, practices performed by practitioners can influence what practitioners do over time and praxis can change the environment in which the practice is done.

Table 4
Critical success factors.

Critical Success Factor	How to practically action them:
1. Responsible, Effective and Ethical Leadership	- The NDMO should create a platform for ongoing DRR engagements among all stakeholders. - There should be training, guidance, and involvement of district and village level structures in DRR decision making. - All DRR related challenges reported should be addressed in a timely and decisive manner [72]. - Incorporate elements of a bottom- up approach in DRR planning and strategising, involving implementors and other stakeholders.
2. Cascading the DRR Strategy among Implementors and Ensuring Clear Understanding	- The NDMO should facilitate country- wide induction and ongoing workshops and conferences with implementors from all levels of the national DRM institutional framework, discussing the national DRR plans, policy, and strategy. - Assist district and village structures in the formulation and evaluation of their DRM plans within given timeframes. - The NDMO should provide clarity on responsibilities of DRR implementors at all levels of the institutional framework.
3. Availability of Resources	- There should be appointment of a focal person or dedicated DRR units within districts. - Formulation of village DRM committees (made up of the Village Extension Committee and the VDC. The Village Extension Committee is made up of government employees from various departments at village level. They have departmental technical skills, organisational skills, access to resources and can transfer pertinent DRR skills to the VDC's. - Development of a DRM national budget - Promoting the use of Information and Communication Technologies- online forms of communication and information sharing e.g., sending emails, web pages, online communication applications.
4. Monitoring and Evaluation of Strategic Objectives	- The NDMO should ensure that DRM plans are evaluated by districts and villages/communities annually, once formulated and submitted. - Government should seek expert advice in setting up performance measures for DRR plans at all governance levels. - The NDMO should ensure that there is tracking of project progress and the implementation of objectives through a detailed milestone plan and an achievements checklist.
5 Engagements and Information Sharing	- The NDMO should schedule regular DRR engagements with districts (monthly)- physical/online meetings. - Regular scheduled meetings with communities (bi- monthly)- physical. - Regular information sharing (weekly), e.g through emails, on notice boards in villages/ communities, social media, radio, and television programs as well as on print media. - The NDMO should provide a detailed national DRR stakeholder communication plan. - The significance of DRR strategy engagements in unofficial settings [3], should be highlighted. Outside of scheduled meetings with highly observed protocol. Unofficial settings can encourage creativity and provide a comfortable space for sharing thoughts.
6 Training and Development for Implementors	- The NDMO should engage experts to carry out s training needs assessment for DRM/DRR implementors at all governance levels. - DRM/DRR training and refreshment courses should be carried out as often as is recommended by the experts mentioned above.
7. Acknowledging Success and Hard Work	Hard work by DRR implementors should be acknowledged by the NDMO, not only in monetary terms. It could be in emails, physical visits, or phone calls.
8. Alignment with International Frameworks and Agreements	- The NDMO should align the country's strategic objectives and plans with the priority areas in the Sendai Framework for DRR 2015–2030 and other DRR guiding frameworks. - Implementors should be educated on the various DRM/DRR international frameworks that national strategies and plans are aligned to.

Source: Table produced by author.

5.1.3. Combine evaluation results with new ideas to modify or formulate a new strategy

A strategy needs evaluation and updating to assist organisations in identifying their progress, strengths, and weaknesses. This would enable implementors to make amends amid changes in the environment.

5.1.4. Implementors and other stakeholders buy-in

This is depicted by a double ended arrow between the strategy formulation and strategy implementation stages. Here the NDMO must solicit support from implementors and other stakeholders because their support determines acceptance and ownership of the strategy. The author believes that support should be sought back and forth between the two stages to cater for any changes that may come up.

5.1.5. Ongoing support from the national level structures

Implementors expressed that they receive little to no training on DRR implementation, among other challenges. The DRM national level structures under the OP determine the allocation of national resources, inclusion of programmes into national development plans and approve national DRR training needs. Thus, it is pertinent to have their support throughout the strategic management process. They should be continuously engaged and kept in the loop with ongoing changes and developments in the sector.

5.1.6. Ongoing effective communication throughout the DRM institutional framework

Implementors stated that the DRR strategy is not cascaded well enough to foster effective implementation. Village level participants expressed that there are no clear engagement channels and platforms for information sharing and feedback on the effectiveness of current DRR structures. It is important for the NDMP to ensure that all stakeholders thoroughly understand DRR objectives, therefore regular, and appropriate communication mechanisms must be used for different stakeholders based on accessibility and comprehension.

5.2. Critical success factors for the framework

Table 4 summarises factors critical to the successful implementation of the framework. The critical success factors should be implemented by the NDMO as the DRR national coordinating body.

In line with the key critical success factors (Table 4), the author identified Coldwell et al. [73] 'Ideal Type Responsibility Compass Management Crisis Remedial Steps'. This model mostly relates to during and post crisis stages of the DRM cycle, however, the author argues that steps one, two, three and six of it can be applied in DRR implementation. These are 'disclosing crisis event early and accepting responsibility, disclosing information openly to the media, selecting governance leadership to handle the event and demonstrating social concern' ([73], p. 139.). Practically in DRR, this includes communicating hazard related information to all concerned and stipulating how the authorities plan to mitigate them, informing the media of this information, ensuring that there is skilled and well capable leadership at the core of DRR and lastly, showing social concern and providing solutions to assist those vulnerable to disasters and least resilient within the community. These steps are pivotal in promoting effective and responsible leadership, for government to maintain a good reputation and solidify support and trust from the public. A trusted government will have many of its people conforming with policies and instituted programmes [74].

6. Conclusion

Listed in this section are contributions the research offers DRR and SAP, compiled from a combination of grounded experiences of implementors of the Botswana national DRR strategy and an analysis of extant national DRM documentation.

6.1. Contributions to DRR strategy and implementation

The in-depth evaluation of the systems, structures, processes, resources, people involved, and challenges faced in implementing DRR detailed in the study is considered a valuable contribution to the extant literature.

6.2. Theoretical contributions

- The senior and grassroots personnel covered in this research revealed mismatches in perceptions/strategy interpretation at different levels within a system, resulting in some of the identified issues in the implementation of DRR. There are indeed various voices pertinent in strategising and strategy implementation.
- There are few, if any studies that have been conducted in the detail that the research participants within the Botswana government have made possible.
- The research findings are not universal to other national settings, however, there is an appreciation of the on the ground challenges encountered in cascading and implementing a national DRR/DRM strategy.
- This study also advocates for recognising organisational settings that support unofficial intensive communication without defined settings as important for the enactment of the national DRM/DRR strategy on the ground.

Furthermore:

- The study comprehensively addresses strategic management and SAP of DRR in a national context.
- This research covered DRR and DRM in an African context by a researcher knowledgeable and fluent in their vernacular.

6.3. Practical contributions

These practical contributions are targeted at the NDMO and policy makers.

- The study provides recommendations, and an SAP based DRR implementation framework that takes into consideration implementors and the micro activities/processes in their work. Leading strategy away from being seen as a mechanical construct of planning and more towards a social shift that pays close attention to human activity. Although the findings cannot be generalised to other national contexts, the framework developed, and research ideologies extracted can be extended to other countries facing similar challenges.
- The study highlighted the importance of four elements in the implementation of a national DRR strategy: effectively cascading the DRR strategy to staff responsible for implementation at district and village levels. Responsible and ethical communication throughout the DRM institutional framework, the need for properly trained implementation personnel as well as the importance of adequate technical and financial resources DRR implementation.
- Scholars in the fields of strategic management, SAP, DRR and DRM can use this study as a precursor of further studies.

Research objective four highlights future researchable propositions and thus, future studies on DRR/DRM could focus on the role other parties within and close to organisations such as middle managers, lower-level employees, consultants, and experts play in strategy enactment. This would extend data representation beyond the upper echelon regarding experiences and social dynamics in accomplishing strategy at grass root level. The study's proposed framework can be evaluated to test its potential utility and validity. To this end, studies could be conducted investigating whether shifting DRR to a ministerial function, with a strong presence in districts and communities in Botswana can promote its effectiveness and efficiency. A cost-benefit analysis could be carried out comparing the cost of investing in DRR against benefits in infrastructural and human savings by pre-emptive action and risk reduction in Botswana. Finally, studies comparing with other DRR case studies in most disaster-prone countries such as the Philippines and Indonesia could aid in providing best strategy practices.

CRediT authorship contribution statement

Margaret Opelo Dennison: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Data curation, Conceptualization. **David Alastair Lindsay Coldwell:** Writing – review & editing, Supervision.

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Data availability

The authors do not have permission to share data.

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