

# Process evaluation in the context of emergencies: Lessons learnt from Operation Restore Hope



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**Background:** This article uses case data from Operation Restore Hope to assess the effectiveness of models used during disaster response. Disasters take the form of emergencies and demand rapid response. As such, an understanding of models used in emergencies edifies knowledge on disaster preparedness and response.

**Objectives:** This study aims to describe and assess the effectiveness and weaknesses of the intervention model used by Higherlife Foundation (HLF) in responding to disasters.

**Method:** The four-tier approach used by HLF in this intervention. Secondary data were gathered using content and thematic analyses and primary data were gathered using key informant interviews, focus group discussions and participant observation. In each of the four phases, emphasis was placed on flagging out the role of HLF with the view of bringing to light what worked and what failed to work.

**Results:** The four phases of the model enabled smooth execution of the intervention, with the last phase providing a good exit strategy. Furthermore, the model partly used indigenous voices to achieve its intended purpose. However, the model must have been prepared before the disaster to factor in the pre-disaster phase. Inclusion of such a phase must have seen the evacuation of people before the disaster following early warnings that were given.

**Conclusion:** The model used in this study comprised four phases that logically feed into and from each other, and the model concludes with a good exit strategy that empowers surviving victims. It recommended that a pre-disaster phase must have been part of the model to minimise on the extent and cost of damage.

**Keywords:** process evaluation; Tropical Cyclone Idai; Chimanimani; Higherlife Foundation; operation restore hope; emergency.

## Introduction

Before the onset of Tropical Cyclone Idai (TCI) in 2019, Zimbabwe experienced several tropical cyclones. Yet, the magnitude of destruction caused by TCI was unheard of in the history of the country. From 15 to 16 March 2019, Zimbabwe was hit by TCI that was characterised by heavy rains and strong winds. The intensity of the impact was felt in the eastern province of the country called Manicaland province and spreading to the southern parts of the country. Along its path, TCI left a devastating trail of flooding, rock fall and landslide marked by immense loss of life, injury and displacement and damage to infrastructure and property, mostly in Chimanimani district of Manicaland province. Between 270000 and 300000 people were affected, including 129600 children and 50905 displaced people (The Herald 2019). A total of 344 people died, 175 injured and over 257 people were reported missing (Knutson et al. 2019). High levels of distress and trauma symptoms among the affected population were recorded (Knutson et al. 2019; Reuters 2019).

Before TCI, the worst recorded cyclone had been Cyclone Eline that hit Zimbabwe from 09 February 2000 until 02 March 2000. It caused 136 deaths, 59184 houses and huts were destroyed, 14999 toilets were caved in, 538 schools and 54 clinics were damaged, 230 dams burst while a total of 20000 head of livestock were lost in Zimbabwe (Tsiko 2015). By then it was reported the worst in 50 years and the 'worst in living memory'.

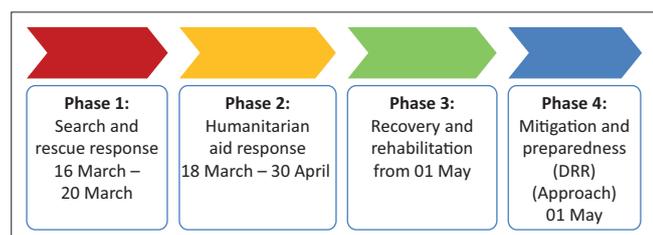
With the understanding that emergencies demand rapid response and mitigation, Higherlife Foundation (HLF) and many other partners collaborated in the disaster response. Higherlife Foundation is a humanitarian-oriented, non-state organisation founded with a view to bring hope to communities in Zimbabwe. In Zimbabwe, the organisation operates in all its 10 provinces with regional offices called Social Business Units (SBUs), located in each of the provinces. The main

concern of this article is to describe the intervention model used by HLF with the view of assessing its effectiveness and weaknesses in responding to disasters. Evaluation of the model used seeks to expose what worked and what failed to work (compilation of lessons learnt) and model a workable plan in similar situation across the board. The key question answered by this article is how well HLF contributed to the relief efforts using the model described in forthcoming sections of this article. This article is structured to provide a review of process evaluation in general and the need for process evaluation in context of emergencies and provide a chronicle of the approach used by HLF during the intervention, observed and reported realities, a synthesis of issues raised in the report and concluding remarks.

Operation Restore Hope (ORH) as a programme of intervention by HLF was structured as a crisis response, tailor-made to suit the needs of the affected communities in Chimanimani. It was aimed at addressing the challenges faced by the people of Chimanimani after they were hit by TCI. The development of the programme involved organising consultative meetings among senior management of HLF. The ORH was anchored on a four-tier intervention approach: search and rescue, humanitarian aid, recovery and rehabilitation and mitigation and preparedness as shown in Figure 1.

Phase 1 adopted a reactionary stance. The affected community shared myth stories and speculations during initial stages of the response to the historical tropical cyclone. The main activity during the first phase was the search for people and animals, as many were trapped by huge pebbles and some dead bodies were covered by rubble. Phase 2 mainly focused on providing humanitarian support to surviving victims. This phase was characterised by distribution of food and non-food items. Phase 3 was followed by the 'rehabilitation and recovery' phase, was aimed at giving psycho-social support to surviving victims. Then, Phase 4 is aimed at developing a disaster risk reduction (DRR) approach meant to equip the citizenry with knowledge on how best to respond to such disasters in case of future occurrence. Savanhu, Mazongonda and Machipisa (2022) labelled the four-tier approach as an effective model because of its ability to contribute not only in responding to disasters but also in preparing for future disasters.

The four-tier approach was partly guided by the logic model (LM), also known as the causal model (CM). The model



DRR, Disaster Risk Reduction.

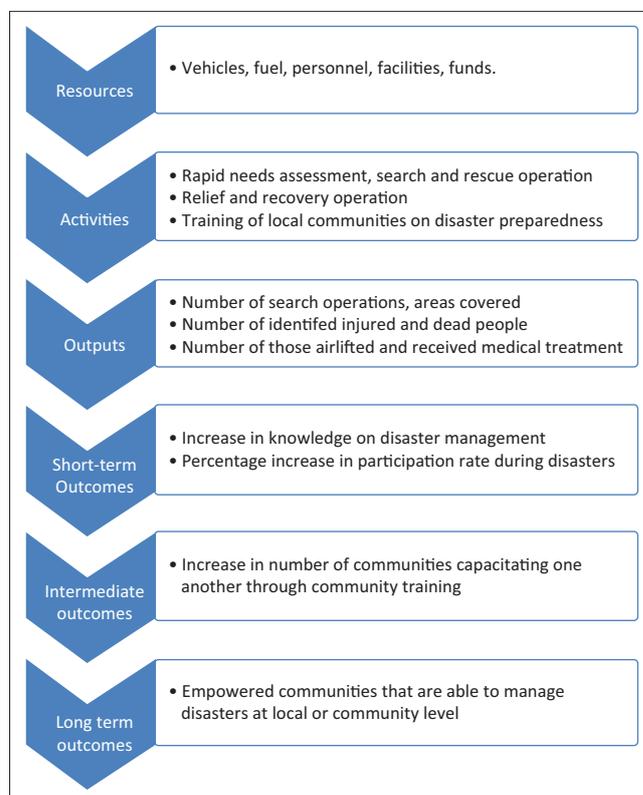
FIGURE 1: Four-tier intervention approach.

describes various activities, which are shown in a way that indicates their progression and linkages (Alkin 2011; Kaplan & Garrett 2005; McLaughlin & Jordan 1999). The LM, shown in Figure 2, is a graphic display of the relationship between a programme's resources, activities and intended results, which also identifies the underlying theory and assumptions (Kaplan & Garrett 2005).

The clarity and logic of the CM sets the scene for ease of assessing the effectiveness of an intervention. This is so because it spells out resources and activities needed to achieve specified outcomes in both the short- and long-term. Since ORH was designed as a process guided by four successive steps, it is easy to assess its effectiveness when one views it through the lens of process evaluation. In this case, a process evaluation seeks to trace what worked and what failed to work during the four phases of ORH. It is prudent to review the process evaluation with the view of shedding light on its ability to assess the model used by HLF during ORH.

## Process evaluation: A review

Natural and environmental challenges (such as floods, hurricanes, earthquakes and cyclones) are becoming a global phenomenon. When they strike, they come in the form of emergencies requiring urgent intervention towards risk and loss reduction (Landsea et al. 2006; Webster et al. 2005). Emergencies vary in nature and magnitude and documenting individual cases enables ease of tracing similarities, congruencies and differences between cases.



Source: Adapted from McLaughlin, J.A. & Jordan, G.B., 1999, 'Logic models: A tool for telling your program's performance story', *Evaluation and Program Planning* 22(1), 65–72. [https://doi.org/10.1016/S0149-7189\(98\)00042-1](https://doi.org/10.1016/S0149-7189(98)00042-1)

FIGURE 2: Logic model framework.

Also known as implementation evaluation, process evaluation examines the intervention as it unfolds or is operating. A process evaluation (and this is one of its key tenets) aims to analyse the 'how' of the intervention, regardless of whether it was intended or not. Evaluation is more than mere 'compliance verification process' (Flewelling et al. 2005). It is achieved by assessing ongoing operations or steps considered in an intervention and determining whether the target population is being served or has been served. Such an evaluation helps programme staff members identify needed activities and change programme components to improve service delivery and processes. A process evaluation often collects data, such as the one summed up in Figure 3.

Figure 3 summarises the data that are collected to achieve process evaluation. The process evaluation must be guided by six steps (Moore et al. 2014), namely:

- forming a working group of internal and external stakeholders
- developing or revisiting the LM
- determining the evaluation audience
- identifying the research question(s)
- choosing the evaluation method
- collecting and analysing the data and report evaluation findings.

The process evaluation methodology is best understood in a contextual set-up. As such, the six steps proposed by Moore et al. (2014) are contextually expanded in different parts of this article. Just like other evaluation typologies, a process evaluation uses evaluation questions as a point of departure.

## Evaluation questions

Specifically, this article is guided by the following evaluation questions putting in line with the compliance dimension as opposed to a broader and more flexible line of inquiry:

- In what ways were the lives of TCI victims transformed by the search, rescue, relief and reconstruction efforts?
- How was humanitarian aid response received by the affected people?
- What were some of the benefits derived from the recovery and rehabilitation efforts?
- What was done to mitigate the disaster and prepare the local people to deal with future disasters?



Source: Adapted from Moore, G., Audrey, S., Barker, M., Bond, L., Bonell, L., Cooper, C. et al., 2014, 'Process evaluation in complex public health intervention studies: The need for guidance', *Journal of Epidemiology and Community Health* 68(2), 101–102. <https://doi.org/10.1136/jech-2013-202869>

**FIGURE 3:** General data gathered in a process evaluation.

Without such evidence, it will be very difficult for an entity, in this case HLF, to know whether a programme was implemented properly or not (Esbensen et al. 2013).

## Research methods and design

The evaluation engaged a more naturalistic approach, that is, interpreting events as they unfold. The natural experimental design entails a study in which there is no manipulation or exposure to the intervention, but assignment of the subjects is 'as if' random (Craig et al. 2012). In the context of this evaluation, it was difficult to come up with the control group because the intervention took the form of a rapid response. It was not possible to include evaluation participants who are not residents of Chimanimani because the intervention specifically targeted affected communities. As such, the study was designed as a single-holistic case study of Chimanimani district. It was single because HLF, through ORH, intervened in Chimanimani only. Then, it was holistic because it traced on all the phases of ORH.

The evaluation relied on two data sources, secondary and primary. Secondary data were sought from HLF records and materials published by other organisations on their websites during and after TCI. Primary data were gathered from surviving victims of the tragic cyclone, selected representatives from government departments and HLF representatives. It is also critical to observe that primary data were partly captured through participant observation because evaluators of HLF intervention were also part the team that participated in the four-tier process adopted by HLF. McKenna and Morrison (2009) have argued that in using the naturalistic approach, the evaluator is involved in observational assessments but lacks the ability to allocate participants to either the treatment or control group to make the design experimental. Within this case study, much emphasis was placed on the evaluation questions stated earlier in this article. These questions partly borrowed inspiration from IPDET (2007) which argued that there are basically three question types which are based on, descriptive, normative and cause-effect attributes. Such criterion is supported by Rossi, Lipsey and Freeman (2004) and Iachini et al. (2014) who argued that evaluation questions play a critical role in any research as they are the ones that give guidelines to the kind of data that the evaluator must collect.

Data were gathered using a combination of questionnaire survey, key informant interviews, participant observation, focus group discussions and content analysis of existing documents. A total of 35 questionnaires were self-administered to randomly selected survivors of TCI. Five interviews with selected government officials and HLF staff were performed. The informants were selected because of their exposure, experience and expertise in dealing with issues inclined to disaster relief and crisis management. As we were walking and driving in Chimanimani, we observed instrumental cases; some were captured using videography and photography. The observation was unstructured and unsystematic. Two focus groups were formed: one with a group of volunteers mobilised by HLF and the other

with community members. Content analysis was used to peruse through, skim, sort and derive meaning from existing documents. In keeping with evaluation questions set ahead of the study, Table 1 summarises the question-method-data nexus. All study participants were told that participation was optional, based on their willingness and ability to participate. Furthermore, they were ensured that collected data were private and confidential and could not be manipulated for anything outside research purposes. In turn, they expressed unconditional willingness to participate in the study because they desperately wanted to share their experience with the historical and catastrophic tropical cyclone. Requisite permission was sought to capture individuals using photography and videography.

Qualitative data gathered using interviews and focus group discussions were analysed using conversation analysis and thematic analysis and quantitative data were analysed using frequency analysis. Data captured using observation and photography helped in remembering was used to tell stories. Intersemiotic relationship (picture–text relationship) of such instrumental cases was reported through narration. The next section discusses evaluation findings.

## Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects.

## Results

This section is structured to provide a brief outline of the impact of TCI and trace elements of the four-tier process adopted by HLF in ORH before exposing the shortfalls of the intervention.

**TABLE 1:** The data collection matrix.

Evaluation question	Data collection method(s)	Indicators
In what ways were the lives of TCI victims transformed by the search, rescue, relief and reconstruction efforts?	<ul style="list-style-type: none"> <li>Key informant interviews with Chimanimani district officials</li> <li>Documents review on the history and nature of cyclones</li> <li>Participant observation</li> </ul>	<ul style="list-style-type: none"> <li>Number of the injured and dead community members</li> <li>Number of houses destroyed</li> <li>Number of search and rescue operations carried out</li> <li>Community involvement in ORH</li> </ul>
How was the humanitarian aid response received by the affected people?	<ul style="list-style-type: none"> <li>Questionnaire survey</li> <li>Interviews with community leaders and members</li> <li>Interviews with representatives of intervening organisations</li> </ul>	<ul style="list-style-type: none"> <li>Awareness of the humanitarian aid being made available</li> <li>How communities received the relief aid?</li> <li>Use of the volunteers</li> <li>Areas covered by the teams</li> <li>Time and material used by the volunteers</li> </ul>
What were some of the benefits derived from the recovery and rehabilitation efforts?	<ul style="list-style-type: none"> <li>Focus group discussions with volunteers</li> <li>Interviews with beneficiary communities</li> <li>Questionnaire survey</li> <li>Key informant interviews</li> </ul>	<ul style="list-style-type: none"> <li>Use of the untrained personnel in some cases</li> <li>Queries received from beneficiaries in the communities</li> <li>Availability of resources to construct damaged infrastructure.</li> <li>Infrastructure. For example, network coverage and electricity necessary in the 21st century</li> </ul>
What was done to mitigate the disaster and prepare the local people to deal with future disasters?	<ul style="list-style-type: none"> <li>FDGs with beneficiary communities</li> <li>Interviews with key informants</li> <li>Questionnaire survey</li> </ul>	<ul style="list-style-type: none"> <li>Improved knowledge gained</li> <li>Improved road and communication network</li> <li>Reduced travelling rates</li> <li>Training in disaster preparedness skills</li> </ul>

TCI, Tropical Cyclone Idai; ORH, Operation Restore Hope; FDGs, Focus Group Discussions.

Understanding the causes of the disaster is essential for preparedness. This is so because in case of a cyclone, there is not much one can do to prevent it, but one can be better prepared with early warning systems and rapid response. This helps to work out measures for intervening when it occurs. Rehabilitating and revitalising the social and economic systems after the disaster becomes easy during the post-disaster era. One observer raised numerous philosophical questions pertaining the causes of the TCI. He expressed his deepest condolences to families who lost relatives, friends, infrastructure and in some cases, lost the capacity to sustain their livelihoods. ‘Lord will comfort and restore all’, said the observer. This observer, in an attempt to explain the aftermath of the cyclone, questioned scientific explanations surrounding the cyclone. Traditional and religious standpoints were used by this observer to question unchallenged scientific explanations.

One proponent once argued, ‘Faith is more advanced than Science’, a bold claim (owing proof) in the face of the many science-oriented individuals there present on the day. Being equally a man of faith and of exceptional scientific background, the observer deeply engaged in a conversation with himself, trying to make sense of the assertion pertaining faith and science.

Following transect walks and drives in Chimanimani, seeing debris that had since formed intricate patterns across faces of the many mountains in the locale, the observer could not believe that wind and rainwater alone could have been responsible for the artistry. His doubts were further propelled by detailed and mysterious accounts of locals who were literally amid the ‘storm’ when all happened. Forthcoming, are some of the myths and stories that are believed to be possible explanations to the causes of TCI.

It is believed that back in the 1930s, a South African scientist observed that there was an underground water canal developing from the Pacific Ocean cutting back into mainland (Roberts 1934). He estimated that in 100 years, the canal would have successfully reached the Indian Ocean, leaving a 3 km water channel running through a path that he mapped out. The path the water canal followed projected that South Africa, parts of Mozambique and Botswana will be detached from Africa and become a stand-alone island.

Some deep conversations the observer had with the locals revealed that issues to do with water spirits. This came up in the course with many of the conversations with a variety of respondents across different races, ages and ethnic groups. A cross section of some locals attested that what happened in Chimanimani is a result of the water spirits having been maddened over time, over a couple of reasons. There is an increase in mining and unsanctioned gold panning activities going on in the area. The locals expressed explicit concerns on the locations that are being tempered with, acknowledging that these are sacred lands, caves and pools. Water sources in these areas have been contaminated by the various chemicals apparently used in the process of extracting minerals. The water spirits are said to be particularly fond of clean and clear water, as it is really their living space.

There was an incident regarding an apostolic sect, led by an unnamed woman who apparently went up to one of the caves in Ngangu area in Chimanimani. They literally stormed the cave and vandalised clay pots and other traditional ornaments that were present there. This happened some time before the disaster. It is believed that the most affected households in the Ngangu area belonged to the sect enthusiasts and followers who had participated in the vandalising act. It can be a coincidence, but the households were hit in almost a selective fashion by rolling debris. Perhaps there could be a geological explanation concerning the earth's structural composition in the area, allowing for easier passage of the rockslides in some areas than in others, thereby creating meandering slides that would hit households in a closely knit community selectively and almost at face value, exclusively. The observer was partly convinced that this could be another probable cause of the tropical cyclone.

There were several warnings of such a tragedy hitting the area from the apostolic sect, prior to TCI. People did not take heed of this warning. In addition, the National Broadcasting Services issued out a warning ahead of the disaster. The observer lamented that lives could have been saved if warnings had been taken with urgency. Hard hit areas gave a pattern of rock falls and landslides emanating from sites that were mostly regarded as sacred. It could be that the said to be sacred sites are also, geologically speaking, the most prone to such disasters. According to the unsatisfied observer, science left another huge knowledge gap because it does not quite explain how so many rocks and so much water could have erupted from these sites without any recorded seismic activity. For most parts, it was acknowledged that the eruptions took place before much of the raining, suggesting the underground water bodies responsible might have been fed earlier and had somehow found it the right time to erupt. The families affected are still mourning their lost ones, some believe they were not lost but are somewhere in captivity of the water spirits. The searches for these missing individuals have been fruitless to date and the locals are starting to consider holding rituals to appease the water spirits in some affected villages. People are still sympathising with them and science has done little to convince them otherwise. It is envisioned that this gap in beliefs and knowledge can be closed, not by merely dismissing those of faith, but providing enough knowledge in facts and figures that will encourage us to study more, read more and possibly write more.

Listening to indigenous voices revealed some of the community's fears, perceptions and early warnings shared before the disaster. Such indigenous knowledge systems were used by the evaluators to inform the evaluation. All the four stages of the intervention model hinged on indigenous beliefs to improve on the effectiveness of the approach. For example, during search and rescue, effort was made not to tamper with traditional ornaments, and provision of psycho-social support was tailor-made to suit local beliefs.

## The impact of Tropical Cyclone Idai

Rock falls and flooding caused massive destruction in Chimanimani. Two stories capture this devastation in human terms; one young man lost two wives and four children and one woman lost her baby.

Some of the narratives from the survivors were heart breaking and emotionally draining. For instance, a young man, pseudo named Peter, lost two wives and four children after he managed to save many lives by using a rope to cross from where they were marooned to safety. According to him, by the time he went to collect his family from the police post where the locals were taking refuge, he found everything (buildings and people) swept away. Another lady had this to say:

'I was carrying my two-year-old child and I climbed the tree with the baby on the back. The water level continued to rise, and I could no longer climb higher because there were other people on higher branches. A log came and hit me on left side and the wrapper got loose and that is how I lost my child.'

Such stories were a common narrative in Kopa (Chimanimani district) area. There were many other stories; we could not capture all of them in this article.

## Search and rescue (March–June, 2019)

Soon after TCI hit Chimanimani, a holding camp was established, through collective effort of intervening stakeholders, at a place called Skyline. This camp was the first port of call for anything entering and exiting the Chimanimani district. This holding camp was used as a referral centre after a preliminary examination of medically related cases. Different organisations, HLF included, adopted a reactionary stance. The HLF hired five private helicopters from the Republic of South Africa (RSA) to complement two Zimbabwe National Army (ZNA) helicopters so that there could be a smooth running of the operation as there was a great need to rescue the people who were still trapped in different places. Helicopters were used because the district was not accessible by road because of infrastructure damage caused by TCI. During this phase, different stakeholders were still trying to make sense of the myths and stories narrated by indigenous voices. These explanations helped people to cope with the scale of the human tragedy that they were encountering.

The ZNA spearheaded this operation with the cooperation of the local people who led the army to areas where they suspected that people and animals were trapped. As the army was busy in search and rescue mission, the other team was busy working on rehabilitation of the road network system so that humanitarian aid could be delivered into the district. Dozens of people shared the same space (church building and classrooms) with dead bodies being preserved by wet sand while waiting for burial, while the injured were waiting for medical attention. Burial could not take place immediately because the weather condition was not favourable for such activities. Curtains were used to separate the living from the dead. Burial only took place after 5 days

into the cyclone. A combined mass burial exercise was carried out by the Home Affairs ministry, police, the Registrar General's office, District Administrator's office, among other stakeholders and relatives of deceased, if they were available because in some cases all the family members perished in the cyclone.

### Humanitarian aid response (March–August 2019)

This phase mainly focused on providing humanitarian support to surviving victims because their sources of livelihood were destroyed. Immediate needs identified during the rapid needs-assessment included, but were not limited to food, clothing, shelter, medication and sanitary wear. During this phase, HLF joined other partners on the ground and spearheaded the distribution process of both food and non-food items. Higherlife Foundation hired 10 ten-tonne trucks and 10 tractors to be used to ferry food and non-food items from the warehouse that was established in the district. All SBUs in each of the county's 10 provinces, the head office and all Econet Shops country wide were used as the collection centres for donations by well-wishers. The exact number of tonnes of second-hand and brand-new clothes mobilised by HLF was not established. This is partly explained by the fact that the exercise took the form of a rapid response. So, some key

statistics were not observed. The distribution of both food and non-food items overlapped into the third phase as donations mobilised by HLF continued to pour in. Figure 4 shows some of the destructions that necessitated humanitarian aid response.

### Recovery and rehabilitation (May 2019 onwards)

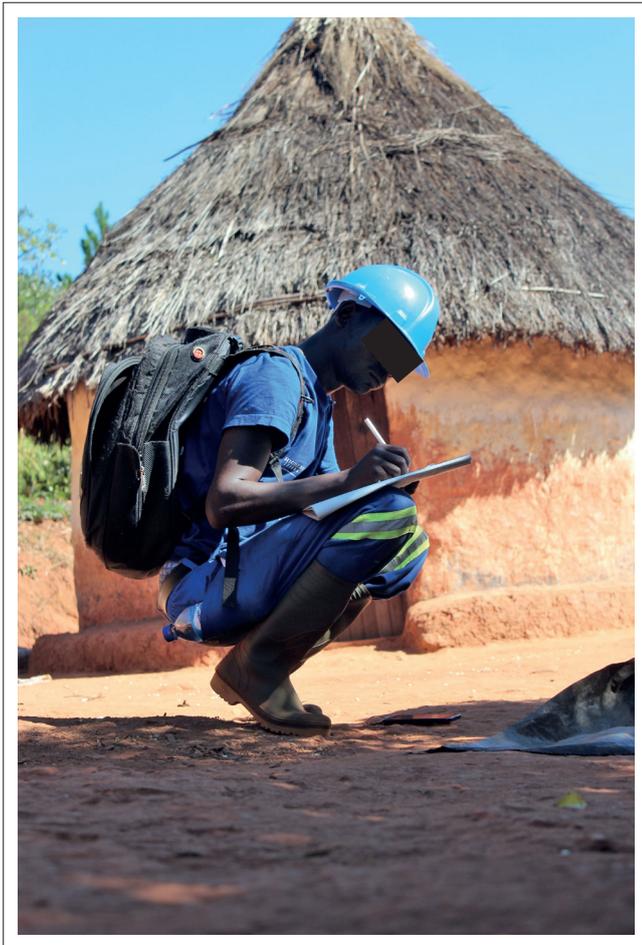
Following the 'humanitarian aid' phase was a phase dubbed 'rehabilitation and recovery'. From the 1st of May 2019, HLF placed much emphasis on the provision of psycho-social support to surviving victims. The third phase of ORH was premised on psychotherapy models featuring mindfulness, acceptance and metacognition to help surviving victims contain the trauma they were exposed to and suffered themselves. It is believed that failure to accept is a major source of stress and mental disorder. This important phase was meant to psychologically convince victims to accept the disaster they faced and its associated negative externalities, loss of property, loss of loved ones, injuries and loss of livelihoods.

During this phase, HLF offered scholarships to school children who were affected by the cyclone. These scholarships were either permanent or temporary scholarships. Permanent scholarships were offered to



**FIGURE 4:** Selected destructions caused by Tropical Cyclone Idai. (a) A school child crossing a bridge that was washed away by the cyclone. Some debris still remaining on the waterbed; (b) a few households that survived the rock and land slides just a few meters from path of destruction; (c) sadly, some infrastructure was not spared. Behind the damaged building is a clear path of rockslide remains; and (d) volunteers realising how much smaller the average human was compared to the boulders from the rockslides. In this picture, one volunteer is pulling the other up from just crossing a path of the rockslides.

school children whose parent(s), or guardian(s) died due to TCI, while temporary scholarships were offered to students whose homes were destroyed during the cyclone. Temporary scholarships offer a relief to the parents or guardian for two school terms of which they would not pay school fees; instead, they were offered an opportunity to focus on the reconstruction of the damaged or destroyed homes. Figure 5 shows one volunteer taking notes one morning in Chimanimani. Details relating to the extent of damage and humanitarian aid required were part of the data captured during these data collection sessions.



Note: A team of volunteers travelled the length and breadth of Chimanimani district to make assessments of the degree of damage to houses. These assessments looked at the type of house that was damaged, whether the structures were built using brick and mortar, pole and dagga or grass and dagga. Considerations for compensation were made to those whose houses were built using brick and mortar. These volunteers repaired some road and bridges using local labour technology because government's efforts were slow considering the amount of humanitarian aid that was required by the different wards. Higherlife Foundation provided safety clothing to all those who volunteered. The provision of work tools in the form of wheel burrows, shovels, picks, gloves and dust covers was made so that there would be no complaints on shortage of equipment. Lunches and allowances were given to the volunteers.

FIGURE 5: A volunteer taking notes one morning in Chimanimani.

TABLE 2: Lead-in summary of key intervention.

Intervention	General description
Education	<i>Temporary scholarships</i> were given to 1685 scholars whose parents or guardians perished because of the cyclone. <i>Permanent scholarships</i> were given to 183 scholars whose homes were destroyed by the cyclone.
Wash	Two water buckets with tapes, two green bars of soap, 2 litres of bleaching liquid were distributed to 5895 families in three wards. <i>Hygiene packs</i> were distributed to over 33 178 scholars in the district.
Food security	Food packs were distributed to over 6000 households in the district.
Child protection	A team from the IsraAid and other NGOs partnered with Higherlife Foundation for giving psychosocial support to more than 4894 learners in the affected wards.

NGOS, Non-governmental Organisations.

## Mitigation and preparedness (August 2019 onwards)

Higherlife Foundation partnered with IsraAID in the development of a DRR programme that was first rolled out in Chimanimani district. The programme aimed to accelerate progress towards strengthening community and school resilience, increasing DRR awareness, developing risk and early warning information mechanism, reduction of risks and building emergency preparedness and response. Regarding early warning systems, some of the channels used are religious and traditional institutions since the local people largely rely on these systems for sharing of information. IsraAID assisted the country by providing psycho-social support to school children.

Table 2 shows the areas of intervention that HLF focused on after the first phase (search and rescue) was over. The major area of focus was food security followed by hygiene packs in schools. Areas such as distribution of non-food items in households and psychosocial support were also given due attention. A diagrammatic summary of the areas of intervention outlined in Table 2 is given in Figure 6.

The study revealed that HLF mobilised and managed volunteers in the areas of education, food security, child protection and hygiene. A significant percentage of volunteers (at least 70% of them) were drawn from local people with the view of tapping from their knowledge of the local terrain and local beliefs. As such, during the first three of the four phases of ORH, volunteerism was used as the main vehicle for helping affected communities. Volunteers were grouped into teams of varying sizes and deployed in different wards depending on the task at hand. Table 3

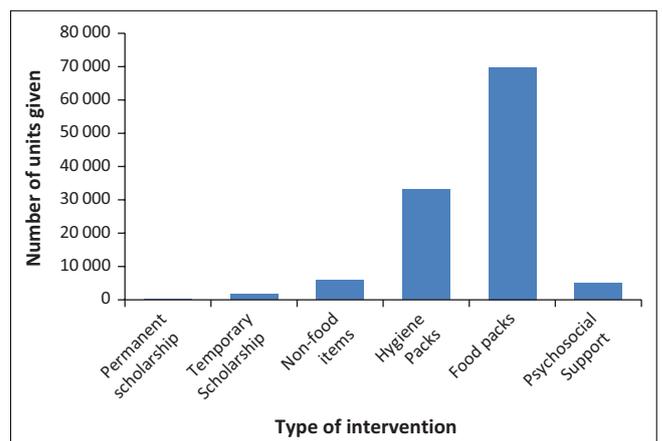
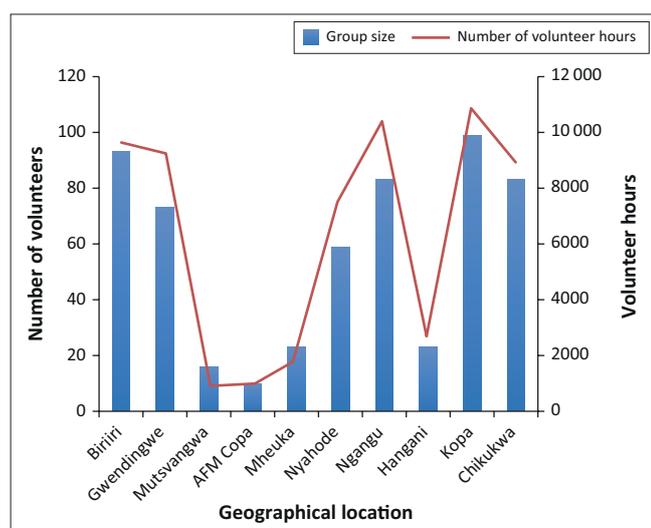


FIGURE 6: Categories of intervention.

**TABLE 3:** Location-group size-volunteer hours nexus.

Group name	Group size	Number of volunteer hours
Biriiri	93	9640
Gwendingwe	73	9245
Mutsvangwa	16	908
AFM Copa	10	989
Mheuka	23	1776
Nyahonde	59	7508
Ngangu	83	10 398
Hangani	23	2689
Kopa	99	10 864
Chikukwa	83	8927
<b>Total</b>	<b>562</b>	<b>62 944</b>

**FIGURE 7:** Geographical spread of group size and volunteer hours.

provides an indicative summary of the nexus between location, group size and volunteer hours invested during the intervention. Information collated in Table 3 is shown diagrammatically in Figure 7.

Table 3 and Figure 7 suggest that a total of 62 944 volunteer hours were invested in the intervention up to the date of collation of data. A diagrammatic interpretation of the geographic spread of volunteerism is given in Figure 7 shows how committed the community members who volunteered were. A total of 562 people volunteered for 62 944 hours at an estimated average of 105 volunteer hours per individual. Volunteers spent weeks volunteering on different projects identified as priority areas in their wards.

### Shortcomings of the Operation Restore Hope

Survivors tell similar stories of being trapped or driven from their houses, many of them were angry at the slowness of the rescue effort. They heard rescue helicopters fly over, but what they needed most was food, clothes and shelter that was yet to arrive. Instead of spending considerable amount of time in consultative meetings and perfecting the intervention model, HLF could have hurried the distribution of food and non-food items. As they were not working in isolation, they could have pushed other stakeholders to act timely.

Although several warnings were aired on radio and television stations, very little was performed on the ground to evacuate the people to safer places. Furthermore, the government did not have the financial, material and human resources to carry out the operation on its own. Organisations such as HLF must have acted ahead of time rather than waiting for the disaster to hit affected areas and then intervene. The same helicopters they hired during the search and rescue phase could have been hired to evacuate people before the disaster. As such, their intervention model must start with a pre-disaster phase which then feeds into the four stages of their model.

## Conclusion and recommendations

This article sought to improve on the understanding of the intervention model used by HLF during ORH. Case data from ORH has demonstrated that models for disaster response must be prepared way before disasters approach people, rather than preparing them when a disaster is upon people. This is so because the unusual nature of emergencies demands rapid response and some important factors such pre-planning can be overlooked in resultant models. Although HLF's intervention was partly guided by the LM, it failed to quantify and keep record of some of the activities because of the speed at which the intervention took place. For example, quantity of new and second-hand clothing mobilised could not be established. However, given the circumstances surrounding the intervention, it would have been a waste of time for them to record how much clothing they received. The most interesting thing is that they recorded volunteer numbers and hours. This is important to establish for future responses to the following questions: Was it enough? Were there enough volunteers? How were volunteers supported? Were they on remuneration or fed? Furthermore, one good thing about the four-tier model is that it used indigenous voices (religious and traditional stories narrated by local people), to achieve its stated and implied purpose.

In terms of staffing and training, volunteers were mobilised from the local community, but most of them did not have experience of disaster relief, and they did not undergo adequate training because of the nature the emergency and the swiftness demanded by the situation. Operation Restore Hope was an intensive exercise that succeeded through and with collaborative partnership. In as much as the four phases of ORH it appears linear, there were overlaps and iterations necessary for attainment of stated and implied objectives. Higherlife Foundation managed to work within a group of intervening stakeholders, but conflicting ideologies disturbed smooth achievement of set goals because every actor comes with their own experience, approach and methodology.

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## Authors' contributions

A.S. took the lead in conceptualising, crafting the methodology and writing the first draft. S.M. supervised the development of the manuscript, reviewed and edited the manuscript, and assumed an administrative role. A.J. analysed the data and created visual aids. I.C. guided the team on how to package research findings into a research article. He also repackaged the first submission using issues raised in the first round of comments from reviewers.

## Ethical considerations

This article followed all ethical standards for research without direct contact with human or animal subjects.

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## Data availability

All the relevant data are included in the manuscript.

## Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

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