architecture

MDPI

Article

Shelter Self-Recovery: The Experience of Vanuatu

Iftekhar Ahmed [1,*] and Charles Parrack [2]

[1] School of Architecture and Built Environment, University of Newcastle, Callaghan, NSW 2308, Australia
[2] School of Architecture, Headington Campus, Oxford Brookes University, Oxford OX3 0BP, UK; cparrack@brookes.ac.uk
* Correspondence: ifte.ahmed@newcastle.edu.au; Tel.: +61-2-4921-6011

Abstract: This paper draws from a research project that explored the lived reality of communities in Vanuatu recovering from major disasters to understand the impacts of shelter interventions by humanitarian organizations. It focuses on "shelter self-recovery", anapproach followed by organizations after recent disasters. A global overview of self-recovery highlights the potential of this approach to support recovery pathways and indicates the reliance on local context. The overview shows the need for more evidence on the impact of self-recovery programs. In Vanuatu, the study was undertaken in three island sites—Tanna, Maewo and Pentecost—affected by different disasters, particularly cyclones. It examined three main issues: (a) understanding and interpretation of self-recovery; (b) how the approach has evolved over time; and (c) what is being done by communities to support self-recovery to reduce future disaster risk. Key findings from the field indicated that devastation by disasters such as cyclones can cause a serious scarcity of natural building materials, which impedes the self-recovery process. The other significant issue is that of traditional versus modern building materials, where many people aspire for modern houses. However, poorly constructed modern houses pose a risk in disasters, and there are examples of shelters made of traditional materials that provide safety. Drawing from the field investigations, a set of recommendations were developed for more effective shelter self-recovery by humanitarian agencies in partnership with communities and other stakeholders. These recommendations place importance on contextual factors, community consultation and engagement, and addressing the supply of natural building materials.

Keywords: cyclones; self-recovery; shelter; resilience; Vanuatu

Citation: Ahmed, I.; Parrack, C. Shelter Self-Recovery: The Experience of Vanuatu. *Architecture* **2022**, 2, 434–445. https://doi.org/10.3390/architecture2020024

Academic Editor: Avi Friedman

Received: 22 March 2022
Accepted: 9 June 2022
Published: 14 June 2022

1. Introduction

This paper is concerned with the process of shelter self-recovery following a disaster, which is elucidated through a case study from Vanuatu. The term "self-recovery" is used in the humanitarian shelter and settlements sector to mean the process whereby disaster-affected households repair, build, or rebuild their homes using their own resources [1,2] supplemented with assistance from humanitarian organizations. What is important about the process is that households are able to make their own choices and decisions about the reconstruction process [3]. It is an assisted self-help process, where organizations help people to help themselves, consistent with the concept suggested by Flinn et al. [4].

Self-recovery exists on a continuum from those who recover by themselves with no external input and also from programs implemented by humanitarian agencies that provide assistance to support household choice and self-determination on their path to recovery. It is not self-recovery *per se*, but an assisted self-recovery process. This support enables a self-recovery process to be delivered to a much wider percentage of the affected population than typical reconstruction programs which focus on contractor-led construction or repair of damaged houses. The self-recovery approach is related to other recovery approaches such as owner-driven reconstruction, transitional shelter, and core shelter. The main difference is that the reconstruction work aims to assist the whole of the affected population, not just those who are supported by humanitarian agencies. Even in owner-driven reconstruction

projects, transitional shelter projects, or the other forms of shelter recovery projects, the focus is on humanitarian agencies supporting the construction of complete dwelling units—that is, a product—whereas the self-recovery approach is more of a process that supports disaster-affected communities and households to rebuild their own homes more safely than before through the provision of good quality tools, technical back-up, and training. In that sense, it is a different paradigm than that more widely practiced.

There is little evidence for how shelter self-recovery has been implemented and even less on measuring outcomes for self-recovery programs [3,5], and more understanding is needed. There is need for evidence of humanitarian experiences of supporting self-recovery in order to determine how self-recovery can be effective in the field, and what barriers will hamper the process. Humanitarian agencies' experience in assisting self-recovery in urban communities is limited; little is known about how to support it in practice [6]. A knowledge gap is evident: there is a plethora of literature generated in the last few decades on the operational aspects, impacts, and outcomes of shelter recovery programs consisting of projects where humanitarian agencies support the reconstruction of complete houses, but in comparison, the shelter self-recovery approach is relatively new, and there is limited research on it.

The Vanuatu case study presented here is an exploration in gathering evidence on the efficacy, challenges, and opportunities in this field, which offers lessons for the wider Global South context. Typically, as evident from the work of humanitarian organizations there such as CARE-Vanuatu (hereafter referred to as CARE), the shelter self-recovery model consists of providing emergency response support after a disaster, such as tarpaulin sheets and shelter repair kits, together with the training of local Shelter Focal Persons (SFPs) and other tradespersons, followed by the provision of basic tools and materials for house repair and reconstruction. The materials initially provided by CARE are to facilitate emergency life-saving protection from the elements, while the self-recovery process concerns the reconstruction phase of the disaster recovery cycle. The case study points to directions on shelter self-recovery for humanitarian agencies in partnership with communities and other stakeholders such as the government and private sector, articulated in this paper in the form of recommendations.

The island nation of Vanuatu, comprised of an archipelago in the Pacific Ocean, was selected as a case study because of its high exposure to natural hazards, particularly cyclones, and also earthquakes, tsunamis, and volcanic eruptions. Vanuatu is ranked as the most risk-prone country in the world [7]. Cyclone Pam in 2015 resulted in severe devastation and, while not yet fully recovered, Vanuatu was hit by Cyclone Harold in April 2020. The housing sector (or shelter) experienced massive damage—Cyclone Pam damaged 80–90% of the houses in the impacted areas, and in Cyclone Harold, more than 21,000 houses were damaged or destroyed [8,9]. This paper thus focuses on shelter in the context of such disasters.

2. Overview of Associated Literature

The justification for a self-recovery approach comes from the realization that international aid agencies direct shelter support programs that reach at most 30% of affected households in need of shelter assistance, more often with 10–20% coverage [1]. This leaves the vast majority to rebuild on their own, and thus they face significant challenges in recovery, leaving them vulnerable to future disasters, as articulated by Flinn et al. [4] (p. 12): "With little or no outside support, these families will, in most cases, rebuild their houses with the same vulnerabilities and bad building practices that had been contributory factors to the damage, economic loss, injury or death".

A study of the research priorities of expert informants [10] gives a rationale for the strong need for further research into shelter self-recovery. The expert informants identified 96 research needs which they then ranked according to a Delphi process (see for example [11] for information on this process). The issue of research into self-recovery was placed in the top three research needs. In another study, the quality of research in this

area was investigated by [3], and it was found that project reports and evaluations lack sufficient detail to be able to investigate the impact of self-recovery. What is notably lacking is information on the reporting of key project activities and how outcomes are assessed.

The self-recovery approach is gaining interest from practitioners, as the research is being disseminated through practitioner networks such as the Global Shelter Cluster and the regional Shelter Forums. Maynard et al. [5] comment that shelter programs to support self-recovery are being accepted as legitimate by practitioners and gaining momentum in the shelter sector. Twigg [12] records that global institutional endorsement was given to self-recovery methods when it was adopted as a working group of the Global Shelter Cluster (the Cluster System is the operational structure of the UN Inter-Agency Standing Committee (IASC) humanitarian coordination framework).

Characteristics influencing self-recovery [2] include the recovery context, enablers and barriers, household decision making, and humanitarian support for the process. The recovery context includes access to grants, the nature of the hazard or hazards, and access to resources and community organizations. Enablers or barriers determine progress according to livelihood pressures, household priorities on how to use scarce resources, the mental ability to deal with the aftermath of a disaster, and the level of technical knowledge and skills. Decision making by households involves a complex and possibly conflicting set of dilemmas on how to navigate the recovery process. Humanitarian support for self-recovery needs to integrate different disciplines and sectors to be effective.

There are some indications of the positive aspects of agency programs that support self-recovery [4]. The training of local artisans in safer building techniques ensures that the technical knowledge for building disaster-resilient housing stays in the community and can contribute to longer-term disaster risk reduction. Each household makes decisions about where to spend the resources and design according to their specific needs, which reduces the negative effects of the imposed design of a humanitarian aid shelter program. Control over design can have the added advantage of using the shelter reconstruction to support outcomes in other sectors. An example of this process is enabling the design of the house to incorporate spaces to support livelihood activities. Speed is another positive aspect of self-recovery programming, where cash support can be delivered to large numbers of households in a short space of time. A key negative includes inconsistent technical quality. If households are recovering by themselves, they may not have the technical knowledge or the skills to be able to incorporate build-back-safer components into the reconstruction, or may not even know about safer building messages, if the dissemination of these does not reach the affected communities.

In one of the early studies of self-recovery [6], cases in the Philippines (Typhoon Haiyan response 2013) and Nepal (Gorkha earthquake response 2015) were investigated. It was found that significant barriers to self-recovery were created by local and national government policy decisions, creating an environment that did not support self-recovery. Displacing households from their livelihoods had a negative impact; it meant that although they may have had safer shelter, there was little opportunity to earn a living where they were newly located. The proposal made by [6] is that, for self-recovery to be effective, the housing need must be integrated with other needs such as including access to livelihoods, water, sanitation, hygiene, health, and food security. Cash assistance was found to have a specific negative effect on self-recovery: the most vulnerable households were not able to access the formal support systems.

In an evidence review of safety aspects of self-recovery shelter programs [3], there were only a small number of studies that reported findings in this area. The evidence was generally of poor quality, so the results need to be interpreted with caution. In [3], the authors determined three areas of relevance where self-recovery programs reported findings on the safety of the reconstructed housing: technical support, adaptation of local construction techniques, and knowledge transfer. Each of the issues are detailed below.

Technical support was very commonly used to support self-recovery through training programs, but whether this leads to safer construction seems to be related to monitoring of

the construction process. Organizations supporting self-recovery programs need to have the capacity to provide technical assistance, which can be complicated if householders are given choice on which materials to use and how to fix them together.

Support for self-recovery commonly uses the adaptation of local construction techniques. The benefits of this approach are that materials are easily accessible and commonly free and can be replicated easily due to existing skills in the community, although the supply scarcity of local materials is also becoming evident, as discussed in the Vanuatu case study below. Communities are more likely to continue using these methods if they are easy to modify, so there is more chance of sustainability using these construction techniques. The main drawback of this approach is that it is time-consuming to investigate local techniques and work with the community to adapt and refine them. This time commitment may not fit easily into humanitarian reconstruction or donor financing timetables.

There is some evidence [3], although weakly presented, that indicates that knowledge transfer about safer construction can spread throughout the community to households who are self–recovering completely by themselves and do not receive any support for their recovery process. It is likely that this happens through awareness of training programs being given to households who are humanitarian program beneficiaries, or through local artisans who have received training and are then employed by households to assist with reconstruction.

An evidence review of the impact of self-recovery programs [5] similarly found only a small number of relevant and reliable reports. The review found the following ways in which shelter self-recovery can make an impact on the affected population at household level: dignity and self-reliance, perception of safety and security, income or livelihoods, assets or debts, physical and mental health, and knowledge about safer construction. The study found good support in the evidence for positive effects of self-recovery programs on dignity and self-reliance due to people taking ownership of the rebuilding process. It also found good support for the perception of better safety and security. This was as a result of reduced overcrowding, integration into host communities, and awareness of what constitutes reliable materials and good construction quality. The evidence for the other factors was inconsistent or unclear and needs more research to explore.

3. Materials and Methods

Informed by a broader study on self-recovery supported by the Global Challenges Research Fund (GCRF) on "Self-Recovery from Humanitarian Crisis" conducted by CARE-UK and Oxford Brookes University, UK [13], of which the Vanuatu case study below is a part, and in response to the need for evidence mentioned in the previous section, the following three research questions were investigated in the field studies in Vanuatu and the analysis of the data collected therein:

1. How is self-recovery understood by different stakeholders? (RQ1)
2. How has community self-recovery and support for self-recovery evolved? (RQ2)
3. What interventions and strategies are used by communities to support shelter self-recovery and enhance disaster risk reduction (DRR) practice? (RQ3)

The basis of RQ1 is linked to the limited existing research on self-recovery, as discussed above in Section 2, and thus in Vanuatu, it was sought to understand the perspective of both community and organizational representatives. There are reports that the self-recovery approach had been applied in recent years in Vanuatu, especially since TC Pam in 2015; given that TC Harold was a recent disaster, RQ2 was posed to explore the most recent developments in self-recovery. While self-recovery is essentially an agency-assisted process, the community plays a vital role in it; therefore, RQ1 explored that role and at the same time explored DRR practice within the self-recovery paradigm.

The research was conducted in partnership with CARE and mainly explored the self-recovery initiatives of this organization; the work of some other organizations was also investigated. Investigations were undertaken on three different islands in Vanuatu—Tanna, Maewo and Pentecost—that were affected by different disasters and where self-recovery

interventions were implemented. Tanna was affected by TC Pam in 2015, and the work of CARE there represents an earlier stage of the application of the self-recovery approach. In Maewo, people were relocated from the nearby island of Ambae after volcanic activity from 2017, and the self-recovery work by CARE consisted of support for the new settlers to build houses that would provide safety from future disasters, which the existing community had the opportunity to utilize as well. Pentecost was severely affected by TC Harold in 2020, and CARE undertook an extensive shelter self-recovery initiative there that included a variety of inputs including the provision of training, materials, and equipment.

The data collection methods were adapted from methodological approaches developed by the GCRF team. The communities participating in the research were purposely selected based on their involvement in CARE's humanitarian response programs. A representative sample of research participants included a range of responses and experiences, a gender balance, and a diversity of geographical locations (e.g., inland and coastal communities, north and south situated communities). The data collection methods included focus group discussions (FGDs) at the community level, semi-structured interviews of households and community key informants on the three islands, and semi-structured interviews of organizational key informants in Port Vila, Tanna, and overseas (see Table 1). The interview and FGD questions were structured along the lines of the three research questions above: firstly, to find out about the understanding of shelter self-recovery of the participants at both community and organizational levels; secondly, to know about their respective experiences in the series of recent disasters (Cyclone Pam, Cyclone Harold, Ambae Volcano) with a view to explore the evolution of shelter self-recovery; and thirdly, focusing on local support strategies for shelter self-recovery with a view to understanding DRR measures. A comparison of the responses by the two different groups—communities and organizations—allowed a comparison of the different and/or similar perceptions and interpretations, thereby contributing to the research results.

Thematic analysis was conducted on the collected data, which is suited to this from of phenomenographical research, which sought to examine how different people understood and experienced the phenomenon of shelter self-recovery (see [14] on this form of research). In practical terms, it involved a manual coding method to identify key themes. The thematic codes consisted mainly of perspectives of the respondents, and thereby recurrent and also unique issues were identified. The interview and FGD responses were reviewed to identify a set of recurrent issues pertaining to shelter self-recovery in Vanuatu, which were manually assigned individual color codes, which then informed the structure and components of the research results. Unique issues were also identified to complement the narratives from the common issues.

A qualitative approach was followed, involving both secondary and primary data collection and the analysis of the data to identify key issues relating to shelter self-recovery. The case study presented below is derived mainly from the primary data from the field, consisting of interviews and focus group discussions (FGDs), and also informed by some key relevant documents.

Table 1. Summary of data collection methods.

i. Community Level				
	Methods	**Pentecost 6 Communities (FGDs in 5)**	**Tanna 2 Communities**	**Maewo 3 Communities**
1.	**Focus Group Discussions (FGDs)** (total 20 FGDs in 3 locations)	1 female + 1 male FGD per community. TOTAL 10 FGDs	1 female + 1 male FGD per community. TOTAL 4 FGDs	1 female + 1 male FGD per community. TOTAL 6 FGDs
2.	**Semi-structured interviews:** Community Key Informants, especially Shelter Focal Points (SFPs) (total 15 interviews in 3 locations)	7 interviews (3 female)	2 interviews (1 female)	6 interviews (1 female)
3.	**Semi-structured interviews:** Households, including vulnerable people such as the elderly, widows and people with disabilities (total 10 interviews in 3 locations)	6 interviews (4 female)	2 interviews (1 female)	2 interview (2 female)
ii. Organization Level				
Method: Semi-Structured Key Informant Interviews (KIIs) (TOTAL 10 interviews)				
1.	National Disaster Management Office	1 × Staff (Port Vila)		
2.	Department of Strategic Planning and Aid Policy Coordination (DESPAC)	1 × Staff (Port Vila)		
3.	Public Works Department/Shelter Cluster Lead	1 × Staff (Port Vila)		
4.	Lume Rural Training Centre (LRTC)	1 × Staff (Tanna)		
5.	International NGO (CARE)	2 × Staff (Port Vila)		
6.	Vanuatu Red Cross Society (VRCS)	1 × VRCS Disaster Manager with Shelter/PASSA/field experience (Port Vila)		
7.	International NGO (IOM)	1 × Staff (Port Vila)		
8.	International NGO (Australian Red Cross)	1 × Staff (Australia)		
9.	Independent Shelter Consultant	1 × Consultant (Port Vila); former CARE Shelter Technical Adviser		
10.	Donor agency	1 × USAID (Washington D.C.)		

4. Results

The results of the research are structured below according to the three research questions mentioned above in Section 3. These results were the basis for identifying the recommendations presented later in Section 5. Some of the key issues that emerged from the field investigations, as discussed below, underscored the importance of understanding the context, community consultation and engagement, and the supply of natural building materials, which have informed the formulation of the recommendations.

4.1. Understanding Self-Recovery

The initial community recovery process evident from Vanuatu consists of salvaging materials from damaged homes to build a temporary shelter. People might live in inadequate shelter over an extended period after a disaster as they incrementally improve their dwellings. The self-recovery projects of organizations such as CARE focus on incorporating a degree of safety so that these houses can be resilient. Tarpaulin sheets provided as emergency relief assist in protection in the interim (see Figure 1) before more durable options are available through the support of agencies including training and tools. The shelter self-recovery model generally does not directly provide building materials or cash, and disaster-affected households are expected to source the materials themselves. Tarpaulin sheets are provided as emergency relief for temporary shelter during the crisis stage, although households have been found to be using them well after the initial period.

disaster-affected households are expected to source the materials themselves. Tarpaulin sheets are provided as emergency relief for temporary shelter during the crisis stage, although households have been found to be using them well after the initial period.

Figure 1. A temporary house built with salvaged materials after TC Harold in Pentecost. The structure on the left has tarpaulin sheets provided as emergency relief by CARE (photo credit: Jen Bowtell).

There appeared to be a lack of clarity at the community level on the concept of self-recovery as an assisted self-help process, indicating the need to translate it to that level. At the level of organizational staff, more clarity was evident, and several staff members highlighted the merits of the approach.

The issue of traditional versus modern building materials is significant in this context, where many people aspire for modern houses. However, poorly constructed modern houses pose a risk in disasters, and there are examples of shelters made of traditional materials that provide safety. Affordability is a key issue with low cash flows in rural areas; thus, humanitarian organizations such as CARE aim to support the use of traditional materials with safety features using a limited set of modern materials such as cyclone straps, wire, and nails, together with training based on Shelter Cluster Vanuatu (SCV—a consortium of humanitarian organizations involved in the shelter sector) guidelines on safe construction. This, however, causes tension between local aspirations and the aims of humanitarian agencies; thus, again, the significance and necessity of community consultation and engagement is highlighted in the recommendations below.

4.2. Evolution of Self-Recovery

A key purpose of shelter self-recovery is to enable communities to build back safer (BBS), which has stepped up in Vanuatu since TC Pam. This involves incorporating safety features in shelter that allow a degree of resistance and reduce the need for repair and rebuilding after a disaster. The BBS message was found to have gained ground through CARE's efforts in the research sites.

The supply of natural materials, as used in traditional houses in Vanuatu (see Figure 2), is important for self-recovery but can be affected by the loss of vegetation in a disaster; people in Pentecost were facing an acute shortage of *natangora* (sago palm) thatching material. CARE trained and supported chainsaw operators to harvest timber from trees fallen by the cyclone, which addressed the problem of materials shortage, though people needed to wait for some years before the *natangora* and bamboo groves grew back and could be used for further rebuilding. There is an overall growing problem of a diminishing supply base of natural materials, pointing to the need for sustainable forestry initiatives.

(**a**) (**b**)

Figure 2. Traditional houses made of natural building materials in (**a**) Pentecost and (**b**) Tanna (photo credits: Jen Bowtell).

A review of organizational interventions indicated gaps in the government's work at different levels. While there were critiques of the work of NGOs, there was also appreciation. The SFP model that evolved in CARE was found to be valuable, as well as the several self-recovery support by CARE, because of the proximity and access to the SFPs. However, it was found that organizational support can create long-term expectations that might be unrealistic, so a clearly defined exit strategy for specific self-recovery programs that is understood and accepted by the community is important.

4.3. Knowledge Exchange and Shelter DRR

An important element in shelter self-recovery is knowledge exchange to develop local capacity and awareness in safe building practices. This is undertaken by organizations such as CARE through training programs and demonstration by building safe houses. The training of SFPs is important in this regard, as well as others such as chainsaw operators. Strong resilience and traditional knowledge exist in communities, which is a resource that self-recovery initiatives draw upon.

The role of different communities is illustrated by the specific case of relocation in Maewo. Here, the original plan of the government to establish a large permanent settlement did not materialize, and people were disappointed by the failed promise. This impacted a self-recovery project of the government where people could not or did not complete houses for which a structural frame was provided. The relocation created pressure on the existing community, but even then, there was evidence of strong community-to-community support, where the host community extended a wide range of supports to the relocated community, such as food, accommodation, and employment.

The gender strategy of CARE had resulted in positive outcomes in a strongly male-dominated context. This is particularly reflected in the development of a cadre of trained women SFPs, which was recognized by the local male Chiefs. There were still challenges with the continuing economic reliance on men and limited involvement of women in machinery-related trades, pointing to the need to continue gender-based initiatives.

Low income is a key factor contributing to vulnerability, which is compounded by various factors such as being a woman, elderly, single mother and/or widow, or having a disability and limited access to knowledge and skills. The self-recovery projects of organizations such as CARE therefore place priority on addressing the needs of the most vulnerable. At the same time, there was strong social capital in communities ranging from the family to community to community-to-community levels—a valuable resource for self-recovery programs.

Incorporating DRR features into shelter is a key aim of self-recovery programs. In addition to physical improvements to shelter, training at the community level based on safe construction guidelines had raised community awareness. This was augmented by

traditional knowledge. Traditional safe refuges are generally sturdy and can serve as evacuation centers during a cyclone, and building demonstration safe houses by CARE in places such as Maewo, where they were not common, created further awareness of shelter DRR (see Figure 3).

Figure 3. An improved version of a traditional house in Maewo that was built after training by CARE (photo credit: Jen Bowtell).

5. Recommendations

Following from the preceding sections, in this section, a set of recommendations for humanitarian organizations working in the shelter sector informed by the results of the research are presented. The recommendations are drawn, interpreted, and augmented from the commentary of the participants at different levels—community and organizational—giving them a voice in contributing towards defining the future pathway of shelter self-recovery.

- Understanding the context: Every shelter self-recovery program is different, and there is a need to predict what will work and what will not according to the context. There is a need to think about the context, about what the community wants, what they are used to, and what materials and labor (skilled or unskilled) are available.
- Consulting and communicating with the community: Consulting and communicating with the community for program delivery is widely understood in the NGO community, yet, misunderstandings can occur because of differing expectations, which need to be managed to avoid negative outcomes. The idea of self-recovery needs to be translated at the community level so that there is stronger clarity and undue expectations are not created.
- Drawing on community resourcefulness: Social capital, traditional knowledge, and community leadership are key areas of community resourcefulness that inform shelter self-recovery initiatives. The self-recovery model should rely on a synthesis of organizational support with community resourcefulness.
- Considering knowledge exchange needs: A community consultation process allows insight to be gained into the knowledge exchange needs at the community level, as evident from the field investigations, where the need for refresher trainings, certification of SFPs, guidance on different types of construction—both modern and traditional—were some of the suggestions that deserve consideration. A key area to explore is additional knowledge on how to source materials beyond an island through community–community support.

- Promoting the necessity of disaster preparedness: With regard to shelter self-recovery, specific measures for disaster preparedness need to be promoted at the community level, where people require more training and awareness to ensure appropriate actions relating to shelter, food gardens, water supply, etc. in a disaster, and preparation of adequate safe shelters and other concerns in a disaster. Preparedness for a supply of natural materials after a disaster is also important by exploring options for support to local suppliers.
- Supporting sustainable forestry and plantations: To address the materials supply crisis, natural resource management including replanting and rejuvenating trees for timber supply and also natural organic materials—bamboo, *natangora*, wild cane, plants for bush rope, etc.—according to local building traditions of specific island contexts is necessary. This can be done in partnership with the government.
- Advocating for governmental engagement: NGOs should be advising and helping the government to set policies and help people access skills, materials, and logistics that support self-recovery strategies and provide guidance on means of leveraging financial and institutional resources. Advocating governmental support to Community Disaster and Climate Change Committees (CDCCCs) under the National Disaster Management Office (NDMO) to engage in self-recovery is important. Other areas include advocacy to include traditional shelter building techniques and materials in building codes and education.
- Continuing support for gender and social inclusion initiatives: Humanitarian organizations such as CARE should build on their achievements in the field of gender and social inclusion and use these as a tool for wider leverage at the institutional and community levels. They need to continue and develop this role so that women, the elderly, and people with disabilities have a stronger voice in shelter self-recovery.
- Assessing the applicability of a cash transfer approach: Although the self-recovery model followed by organizations such as CARE does not provide cash, a study by Oxfam [15] suggests that cash transfers can be feasible in some cases. It thus needs to be assessed whether a cash transfer approach is applicable according to the context. It might be applicable especially for the most vulnerable, and it also allows making individual choices on how to recover according to specific circumstances. Conditional cash transfer can be tied to the application of resilience measures in shelter. This might mean looking further at training and access to knowledge for a self-recovery approach and options for a recovery grant process.
- Having an exit strategy with strong legacy outcomes: It is important to plan an exit strategy after project completion with valuable legacy outcomes. What is left behind needs to be taken into account, and the level of self-reliance and empowerment for future self-recovery projects needs to be understood. The possibility of future ongoing shelter maintenance through support by SFPs should be explored.

6. Conclusions

This paper provides much-needed evidence on the application of a self-recovery approach in post-disaster shelter assistance. The literature highlights the need for better quality evidence, and this study demonstrates a rigorous scientific method and analytical framework. The research approach highlights the strength of research collaboration between operational humanitarian agencies and academic organizations, harnessing the strengths of both to enable quality research. The connections and country office of CARE in Vanuatu enabled dependable groups of individuals and communities to be identified and accessed through their network of beneficiaries. The academic partners enabled the research method to be set up and analyzed in a rigorous manner to ensure good-quality evidence was produced. An additional benefit is the research impact. An operational partner organization who has been operating in the area for a long time period will continue to be present in the future. The findings and lessons from the research can therefore be directly

applied to planning and response to future disaster events and incorporated into policies and standard operating procedures of the partner organization.

From this case study, the understanding of self-recovery has been advanced. In Vanuatu, it was found that households aspired to live in houses built from "modern" materials using "modern" construction methods, which caused tension with the proposals of the agency supporting the self-recovery process, which focused on traditional materials and construction methods with added safety features. It is likely that this issue exists more widely that Vanuatu, but more research would be useful to determine this, to address what can be done to manage expectations during the recovery process, and to communicate the value (sustainability, maintenance, cost) of the safer traditional construction approach.

There is a key relationship between self-recovery and the natural environment evidenced in this research. The self-recovery approach, by prioritizing traditional materials obtained from the natural environment, highlighted future shortages of these materials unless policies and projects were put in place to ensure the sustainable supply of these materials. One positive aspect of this linkage is that livelihood programs to work with the natural environment to produce building materials could be a positive outcome of support for self-recovery housing. Again, this is an issue that has the potential to be significant for the protection of environmental resources as well as life cycle environmental impacts of housing programs in many situations of housing recovery. More research is needed in this area to determine the extent of this relationship and measure its impact.

Finally, the importance of knowledge exchange is highlighted in the research findings. Self-recovery depends on information being spread amongst the affected population on better and safer reconstruction practice, so this represents a key area of investigation. In the case of Vanuatu, the Shelter Focal Person (SFP) role in the community represents an opportunity to locate knowledge in the structure of the community, and the creation of this role ensures continuity. Successful knowledge exchange was also seen in community-to-community support and the knowledge exchange between safer construction guidelines and traditional construction knowledge. All of these factors be worthy of study in other geographical contexts.

Author Contributions: This paper is derived from a consultancy report produced by I.A., who was responsible for conceiving the paper and writing the introduction, methodology, results, and recommendations sections. C.P. wrote the literature review and conclusions section and also provided some inputs to the other sections. All authors have read and agreed to the published version of the manuscript.

Funding: Funding for this research was provided by the UKRI Global Challenges Research Fund, Global Research Translations Award. Reference EP/T015160/1.

Institutional Review Board Statement: Research ethics approval for this project has been awarded by Oxford Brookes University Ethics Committee, UREC Registration No: 201465.

Informed Consent Statement: Research ethics protocols for informed consent were followed as per the above-mentioned ethics approval from Oxford Brookes University, UK.

Data Availability Statement: The full report and related information is available from the "Self-Recovery" website of Oxford Brookes University: https://self-recovery.org/ (accessed on 8 June 2022).

Acknowledgments: Acknowledgements are due to CARE-UK and CARE-Vanuatu teams for supporting the research project in Vanuatu and for their feedback during the process of producing the project report. Lead persons include Bill Flinn (CARE-UK) and Isabelle Choutet (CARE-Vanuatu), who played key roles in supporting and facilitating the project, as well as providing valuable conceptual feedback to the study. Acknowledgement also goes to Jen Bowtell and her team in Natapoa Consulting, Vanuatu, who was the Research Associate and conducted the data collection.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Parrack, C.; Flinn, B.; Passey, M. Getting the message across for safer self-recovery. *Open House Int.* **2014**, *39*, 47–58. [CrossRef]
2. Twigg, J.; Lovell, E.; Schofield, H.; Miranda, M.L.; Flinn, B.; Sargeant, S.; Finlayson, A.; Dijkstra, T.; Stephenson, V.; Albuerne, A.; et al. *Self-Recovery from Disasters: An Interdisciplinary Perspective (Working Paper 523)*; Overseas Development Institute: London, UK, 2017.
3. Harriss, L.; Parrack, C.; Jordan, Z. Building safety in humanitarian programmes that support post—Disaster shelter self-recovery: An evidence review. *Disasters* **2020**, *44*, 307–335. [CrossRef] [PubMed]
4. Flinn, B.; Schofield, H.; Morel, L.M. The case for self-recovery. *Forc. Mig. Rev.* **2017**, *55*, 12–14.
5. Maynard, V.; Parker, E.; Twigg, J. *The Effectiveness and Efficiency of Interventions Supporting Shelter Self-Recovery Following Humanitarian Crises*; Oxfam: Oxford, UK, 2017.
6. Schofield, H.; Lovell, E.; Flinn, B.; Twigg, J. Barriers to urban shelter self-recovery in Philippines and Nepal: Lessons for humanitarian policy and practice. *J. Brit. Acad.* **2019**, *7*, 83–107.
7. Radtke, K. *World Risk Report*; Ruhr University Bochum: Bochum, Germany, 2019.
8. Shelter Cluster. Shelter and Settlements Vulnerability Assessment—Final Report: Cyclone Pam Response. 2015. Available online: https://www.sheltercluster.org/sites/default/files/docs/shelter_cluster_report_shelter_and_settlements_vulnerability_assessment_after_cyclone_pam_may2015.pdf (accessed on 7 April 2022).
9. Shelter Cluster. TC Harold Sitrep. In Proceedings of the Academic-Practitioner Collaboration for Urban Settlements—South Pacific (APCUS-SP), Online, 12–21 June 2020.
10. Opdyke, A.; Goldwyn, B.; Javernick-Will, A. Defining a humanitarian shelter and settlements research agenda. *Int. J. Disaster Risk Reduct.* **2021**, *52*, 101950. [CrossRef]
11. Twin, A. Delphi Method. Available online: https://www.investopedia.com/terms/d/delphi-method.asp (accessed on 17 March 2022).
12. Twigg, J. The evolution of shelter "self-recovery": Adapting thinking and practice for post-disaster resilience. *J. Brit. Acad.* **2021**, *9*, 5–22. [CrossRef]
13. Oxford Brookes University. Self-Recovery. Available online: https://self-recovery.org/ (accessed on 17 March 2022).
14. Richardson, J.T.E. The concepts and methods of phenomenographic research. *Rev. Educ. Res.* **1999**, *69*, 53–82. [CrossRef]
15. Holt, C.; Hart, S. *Vanuatu Cash Transfer Feasibility Assessment*; Oxfam Vanuatu: Port Vila, Vanuatu, 2019.