

# The Effect of Community Involvement on Disaster Relief

Ryan Brookman  
Environmental Studies  
May, 2015

Faculty Adviser: Dr. Marian S. Harris

Essay completed in partial fulfillment of the requirements for graduation with Global Honors,  
University of Washington, Tacoma

# The Effect of Community Involvement on Disaster Relief

Ryan Brookman  
Environmental Studies  
May, 2015

Faculty Adviser: Dr. Marian S. Harris

Essay completed in partial fulfillment of the requirements for graduation with Global Honors,  
University of Washington, Tacoma

Approved:

\_\_\_\_\_  
Faculty Adviser

\_\_\_\_\_  
Date

\_\_\_\_\_  
Director, Global Honors

\_\_\_\_\_  
Date

Ryan Brookman

The Effect of Community  
Involvement on Disaster  
Relief

### **ABSTRACT**

The response to the March 22, 2014 landslide in Oso, Washington offers an opportunity to examine a new approach to disaster relief. This community based participatory research analyzes responses obtained from a focus group composed of Oso residents. While there is much in the literature on responding to the physical community, little has been discussed on responding to the less tangible but equally important social aspect of community. Successfully addressing issues of relief and rebuilding requires both elements of community to be considered. Following the Community-Driven Development model, successfully implemented in the developing world by The World Bank, this paper looks at the benefits that could have resulted from the inclusion of a community-driven approach to disaster planning and policy.

## ACKNOWLEDGEMENTS

Keeping to the theme of the research, this project is the culmination of the efforts of a small community of people who are worthy of far more than a simple thank you. First, recognition is due to Chief Willy Harper of the Oso Fire District, who was instrumental in providing support for our focus group, as well as providing information on the community itself.

The respondents of our focus group were an amazing group of individuals who I will always be indebted to for sharing their stories with us. My gratitude cannot be expressed in words.

I would also like to recognize my research team, Ganita Musa and Dr. Marian S. Harris. Your support, reflection, guidance, and input throughout this process was of immeasurable help.

Thank you to the Institute for Global Engagement, the Global Honors Program, Alexis Wheeler, Paul Carrington, Dr. Divya McMillin, and my Global Honors Cohort.

Finally, a giant thank you to the Bamford Family Foundation, without whose generous support this research project would not have been possible.

**TABLE OF CONTENTS**

ABSTRACT	3
ACKNOWLEDGEMENTS	4
TABLE OF CONTENTS	5
CHAPTERS	
1. INTRODUCTION	6
2. LITERATURE REVIEW	8
3. METHODOLOGY	16
4. FINDINGS	20
5. DISCUSSION OF FINDINGS	25
6. CONCLUSION	32
REFERENCES	34
APPENDIXES	
A. RECRUITMENT FLYER	37
B. CONSENT FORM	38
C. LETTER OF COOPERATION	43
D. PHONE SCRIPT	44
E. DEMOGRAPHIC INFORMATION FORM	45
F. FOCUS GROUP QUESTIONS	46
G. LETTER FROM UW HUMAN SUBJECTS REVIEW COMMITTEE	47
H. FOCUS GROUP DEMOGRAPHIC INFORMATION	48

## **CHAPTER I**

### **INTRODUCTION**

On March 22, 2014 the town of Oso, Washington fell victim to an immense landslide which covered an entire neighborhood in mud and debris, claiming 43 lives. The tragic event took place in a location with a known history of landslides, raising the question of whether or not the loss of life may have been preventable given proper planning. The warming globe has led to an increase in the frequency and magnitude in the occurrence of natural disasters, such as that experienced by the residents of Oso. These disasters result in enormous cost both financially and emotionally in terms of the effects on the lives and livelihoods of those living in disaster prone areas. As temperatures continue to rise, so too will the prevalence of these events, prompting the need to examine our disaster relief and mitigation strategies.

The World Bank has promoted a development strategy in the developing world that utilizes the involvement of local stakeholders in the planning and implementation of projects. The term stakeholders refers to “all of those who have an interest in the outcome or funding of a project” (Cracknell in Bowen, 2005, p. 76). This approach is referred to as Community-Driven Development (CDD). While the approach has proven to be effective in these developing countries, there has been a lack of research into whether or not the approach has a place in established economies such as the United States. Can a CDD approach in a rural area of the US produce the same benefits to a community as those seen in the developing world? To address this question, the next chapter will begin with a description of existing literature on stakeholder involvement in planning and decision making, including a look into the workings of CDD programs in Indonesia and the Caribbean. Chapter III will present a brief background on the March 22, 2014 landslide in Oso, WA, followed by the presentation of findings of a March 7,

2015 focus group made up of Oso residents, leading to a discussion of these findings in the subsequent chapter.

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **A Definition of Community**

In most policy discussions, the word community is often used and seldom defined. Is a community merely a place? What are the boundaries of a community? These questions present those in policy discussions with different entry points to the conversation, based on their unique understanding of community. In this respect, defining community is an essential task for policy scholars and professionals to undertake when describing the impact of a policy on the community, or a community on a given policy.

The concept of community has often been discussed as being both descriptive and prescriptive (Frazer, 1999; Gusfield, 1975; McMillan & Chavis, 1986). On the one hand, community describes a value or ideal that is held by its members, while on the other hand it spells out the physical boundaries. These two aspects are often seen as competing for importance in policy decisions. Whether or not a community is viewed simply as a place or whether it is seen as a shared set of values, puts different priorities on policy discussions. In terms of disaster relief, it is important to recognize the interconnectedness of the two characteristics of community. This is vital in the discussion of disaster relief because both the physical community, the land and structures, and the mental construction, the set of values or ideals, of the community are fractured. The result is a need to consider the community from a holistic viewpoint that takes into account reconstruction of the social bonds of the community in addition to the buildings.

#### **What is Community-Driven Development?**

In the 1990s, the World Bank faced criticism for the manner in which it had been carrying out development projects. The World Bank was viewed by many as an over-reaching

byproduct of Neo-liberalism and instiller of a new form of colonialism in the developing world. In an attempt to address these concerns, the World Bank turned away from endorsing projects with authority consolidated in the hands of the elite, towards projects that supported decentralization. The result was the adoption of Community-Driven Development (CDD), in which “programs operate on the principles of transparency, participation, local empowerment, demand-responsiveness, greater downward accountability, and enhanced local capacity” (The World Bank, 2015, p. 1).

The International Fund for Agricultural Development (IFAD) also utilizes CDD as a guiding principle in their poverty reduction work in rural areas of the developing world. IFAD describes its interpretation of the approach as follows:

*CDD appreciates*

- *the role that community-based organizations (CBOs) play in decisions about the economic and social development processes that directly affect the livelihood of their members;*
- *the development of a culture within public administration that views communities as subjects of change and development partners in their own right, rather than as mere receivers of the benefits of public expenditure.*

(IFAD, 2009)

Both of the interpretations illustrate that CDD is a method of devising and implementing development policies, rather than implementing an already formulated policy. This allows for those with experience in development and public policy sectors to craft ideas that benefit the people of the community, as they are the ones ultimately deciding on which ideas get funded. In

this manner, we see the establishment of a public discourse that sees communities as the development partners referred to by IFAD.

CDD has become an increasingly popular approach in the developing world since its wide-scale introduction in the late 1990s. The World Bank has sponsored CDD programs in countries across the globe and is currently supporting CDD programs in 24 countries. Projects range from the Community Action for Nutrition project in Nepal, to a project in Jordan called Enhancing Community-Driven Legal Aid to the Poor, to the Community-Based Coastal Resource Management and Sustainable Livelihoods in Mozambique (The World Bank, 2015). The projects are varied in scope as well as their goals, which illustrates that the approach can be applied to a wide array of disciplines.

### **Post-Normal Science Theory**

The theory of Post-Normal Science put forth by Jerome Ravetz and Silvio Funtowicz (1993) argues that the traditional sciences (*i.e.* chemistry, biology, geology, physics) are not properly equipped to deal with certain problems, especially when there is a level of uncertainty involved. The authors contend that scientific research takes time and that researchers are often hesitant to make recommendations due to a lack of information. Post-normal science is a combination of scientific knowledge with the consultation of other stakeholders and becomes useful in situations where the stakes of an issue are high and the outcomes are uncertain. The addition of community involvement in the picture allows science to be directed by the needs of those affected by its outcomes. The theory of Post-Normal Science is evident in the Community Driven Development model in its interdisciplinary approach to problem-solving.

The possibility that Post-Normal Science could be employed to address issues associated with climate change has been discussed by Marshall and Picou (2008), who suggest that the

changing climate has forced us into a position where the use of scientific energies for economic gains must be replaced with a focus on issues that affect large numbers of people. As they point out, a large percentage of the human population live in areas vulnerable to disasters, and the frequency and magnitude of climate-related events have increased. The result of this is that traditional science has not been able to respond to the crises quickly enough, despite consensus and work on the part of scientists in academia. Marshall and Picou suggest that a combination of Post-Normal Science and the precautionary principle (essentially, we shouldn't embrace a new practice or technology without understanding the ramifications) would provide an efficient guide to environmental policy.

The idea of extending climate disaster mitigation to CDD arose from a 2014 paper issued by The World Bank (Arnold et al., 2014). The authors stress several factors, with the most important being that the world's poor are facing the highest potential for dealing with climate-related catastrophes and that climate science needs to utilize local knowledge in order to develop a clearer understanding of an issue. The authors use data from World Bank CDD projects that have occurred during the last decade to draw their conclusions. The report concludes that the CDD approach has demonstrated that it can provide added resilience following a disaster and that if disaster relief management and climate science are added to development plans, the effect on resilience could be much greater.

A 2014 paper by Gore and Fischer further illustrates the importance of including natural disaster considerations in planning and development. The authors discuss a study in which the efficacy of environmental impact assessments is examined. They make the argument that a major reason we are as vulnerable to natural disasters as we are is due to the inadequacy of previous planning. They stress that the use of environmental assessment immediately following a disaster

can be a powerful way to ensure that the underlying environmental issues are addressed and not compounded by the relief effort. The authors conclude that while assessments are of great use in disaster relief, disasters introduce many complications to the process which sometimes limits its efficacy. For this reason, the suggestion is made that steps be taken to address environmental assessments in disaster planning in advance of a disaster.

### **Indonesian CDD**

CDD was already in wide use in the region affected by the tsunami, dating back to the Asian Financial Crisis of 1997. In response to the crisis the government of Indonesia, with coordination and support from The World Bank, implemented two successful CDD programs, which distributed resources for development projects that fit the community-driven model; these programs were the Kecamatan Development Project (KDP) and the Urban Poverty Project (UPP). The billion dollar KDP was one of the first of the World Bank's large funding projects that was based on social theory, and it is the largest development project in Southeast Asia, encompassing 20,000 villages and spanning three time zones (Guggenheim, 2015). Both of these programs involve the distribution of block grants to community groups, with the recipients voted on by members of the community.

The case of Indonesia following the devastating tsunami of December 24, 2004 provides an example of the effectiveness of CDD in a post-disaster environment. The earthquake and subsequent tsunami were responsible for the largest disaster in modern history. The magnitude of the disaster elevated the need for rapid reaction on a large scale. As millions of dollars in relief aid began coming in, the money was pooled into the Multi-Donor Fund for the Recovery of Aceh and Nias (MDF). Aceh and Nias were the areas most affected by the tsunami. Nias was also struck by a magnitude 8.6 earthquake on March 28, 2005, just three months after the tsunami

(Borrero et al., 2011). The MDF was administered by the World Bank and built on the success of KDP and UPP, both of which were expanded through the MDF. The centerpiece of the MDF funded projects was the Community-based Settlement Rehabilitation and Reconstruction Project, referred to by its Indonesian name Rekompak. The entire effort was overseen by the Indonesian Government's Bureau of Rehabilitation and Reconstruction (BRR).

### **Caribbean CDD**

Another example of a successfully implemented CDD project is the Community-based Landslide Risk Reduction project, an international effort in Eastern Caribbean nations. Just as is the case in Indonesia, the Caribbean region experiences a high number of natural disasters, namely hurricanes, earthquakes, and landslides. While earthquakes often trigger landslides, in the Caribbean the usual cause of slope failure is rainfall (Anderson et al., 2011). A paper written by Anderson et al. (2011) looks at the pre-existing status of landslide mitigation in the Eastern Caribbean and then follows the implementation of the Management of Slope Stabilities in Communities (MoSSaiC) program, the key component of the CDD project funded by the World Bank.

The MoSSaiC program operates on what Anderson and Holcombe (2013) refer to as three, "foundations for community-based landslide risk reduction. These foundations are a scientific basis for reducing landslide hazard, a community-based approach for delivery of mitigation measures on the ground, and an evidence base demonstrating that such an investment both pays and works" (Anderson & Holcombe, 2013, p. 3). They argue that the communities affected are not just victims of disasters but are also the greatest source of data on exactly which slopes are experiencing stability issues. Therefore, MoSSaiC's method employs both scientific

understanding of slope processes, along with the understanding that each slope faces its own unique set of factors of which the local community is intimately aware.

The project involved the gathering of local information on landslide history in the area and combined this with already compiled hazard maps to provide a clearer picture of the slope processes in the area. By identifying areas where drainage issues exist, systems can be put in place to divert excess water away from the slope and prevent future landslides. Prior to the project's implementation, landslide mitigation was limited to simple retaining walls built by homeowners. These retaining walls were prone to collapse due to inadequate drainage and improper footing (Anderson et al., 2011).

Anderson and Holcombe (2013) state that the program has been responsible for reducing the risk of landslides in these communities through surface water management, and it does so through the involvement of the community, geologists, hydrologists, and other concerned parties. The program has demonstrated its effectiveness and has even been adopted by the national government of St. Lucia and may be taken up by other governments as well. This suggests that the program has been successful and has the possibility to increase in scale.

### **Summary**

The literature reveals several important findings. First, it is important to involve all of the stakeholders in a given decision, particularly when there is a high level of uncertainty, as increased involvement leads to better outcomes. It has also been illustrated that environmental assessments should be included in planning to better understand the nature of the hazard and how best to form a response. Finally, the approach championed by the World Bank through Community-Driven Development favors a decentralized method, emphasizing local participation, for dealing with issues on a situational basis rather than imposition of a top-down,

institutional approach. CDD has proven effective in disaster relief and mitigation on a large scale, as demonstrated by the case of Indonesia, but also on a far more localized scale, as seen in the rural communities of the Caribbean. This qualitative study will capture the voice of a population, rarely documented in environmental research, discussing the findings of a focus group composed of members of the Oso, Washington community that experienced the devastating landslide of March 2014.

## **CHAPTER III**

### **METHODOLOGY**

This exploratory-descriptive study examined the link between Community Driven Development and long-term involvement goals following the 2014 mudslide in Oso, WA. As a research team, we decided to do Community-Based Participatory Research (CBPR).

“Community-based participatory research (CBPR) engages the multiple stakeholders, including the public and community providers, who affect and are affected by a problem of concern. This collaborative approach to research equitably involves all partners in the research process and recognizes the unique strengths that each brings” (Horowitz, Robinson, & Seifer, 2009, p. 2633).

There are three levels of community-based participatory research. At one level is research that gathers information directly from community members. Another level includes hiring of members of an affected group i.e. community members by researchers to collect data; these community members are hired because they are familiar with and known in the community. The third level involves recruitment of members of an affected group as partners in a research study. Our research team utilized the first level and gathered information directly from community members. Members of the Oso, WA community were directly affected by the 2014 mudslide and were asked for their opinions about what they needed and what they thought would be of most help to them before and after the mudslide.

Data were collected through a focus group with 10 survivors of the mudslide at a single point in time. In particular this study aimed to explore the possible link between Community Driven Development (CDD) and long-term community development goals, including poverty reduction, provision of mental health resources and environmental resource protections. The study included quantitative and qualitative components and addressed the following research

question: Can disaster relief lead to lasting benefits to the local community? The sample represented only one ethnic group and was chosen because European Americans/Whites were the dominant population in Oso at the time of the 2014 mudslide. Prior to collecting data, the study was reviewed and approved by the University of Washington Human Subjects Review Committee on February 3, 2015.

### **Sample**

A purposive sampling method, specifically criterion sampling, was used to recruit ten (10) individuals who met the following criteria: (a) 18-85 years of age; (b) male and female; (c) identify with any racial and ethnic group; (d) resident of Oso, WA at the time of the 2014 mudslide; and (e) must speak English.

### **Procedures**

#### **Recruitment**

Prior to recruiting for his sample, the researcher submitted an application to the University of Washington Human Subjects Review Committee for review. He did not begin recruitment procedures until obtaining written approval from the committee to conduct his study. The researcher met with Ms. Bonnie Rose, Manager, The Restaurant at Rhodes River Ranch on January 23, 2015 to discuss the research study and to get a letter of cooperation (see Appendix C) from her to post a recruitment flyer on the bulletin board at the restaurant (see Appendix A). A telephone script was developed by the researcher for use when talking to any individuals who contacted the researcher and expressed an interest in voluntarily participating in the research study (see Appendix D). Snowball sampling was also used to recruit potential participants *i.e.* the local fire chief informed residents about the study including the recruitment flyer that was posted

at The Restaurant at Rhodes River Ranch. Ten (10) individuals who met the inclusion criteria voluntarily agreed to participate in the research study.

### **Description of Sample**

Demographic information for the sample (n=10) is found in Table 1. Three participants identified as female and seven identified as male. The age range was 30-68 years, with a mean age of 55.0 years. All participants identified as white. Income ranged from \$0-\$85,000, with a mean income of \$36,400. (See Appendix H for frequency distribution table)

### **Data Collection**

Data were collected at a single point in time via a focus group with the ten participants, utilizing the focus group questions that were developed by the members of the research team (Research Adviser, this researcher and another researcher); both researchers are in the Global Honors Program. The focus group was conducted on March 7, 2015 at The Restaurant at Rhodes River Ranch in a private meeting room to protect confidentiality of the participants. The researchers began the focus group by introducing themselves. All participants introduced themselves. The Research Adviser asked each participant if she/he voluntarily agreed to participate in this study. The researcher explained the purpose, procedures, benefits, and the risks of the study. Each participant read and discussed the Consent for Participation in a Research Study Form (see Appendix B) with members of the research team. Each participant signed two copies of the Consent Form after assuring members of the research team that she/he understood the form and all questions posed by participants were answered. One copy was given to each participant and the second copy was kept by members of the research team. Each participant completed a Demographic Information Form (see Appendix E). Questions were asked during the

focus group by each member of the research team via a rotating system (see Appendix F for Focus Group Questions). All responses were audio-taped. The focus group lasted two hours.

### **Data Analysis**

Demographic data from the Demographic Information Form were described for the participants and a Frequency Distribution of the Sample was developed (see Table 1). According to Bryman (2004), content analysis is defined as follows:

An approach to documents that emphasizes the role of the investigator in the construction of the meaning of and in texts. There is an emphasis on allowing categories to emerge out of data and on recognizing the significance for understanding the meaning of the context in which an item being analyzed (and the categories derived from it) appeared (Bryman, 2004, p. 542).

All data collected via the focus group questions were transcribed verbatim; data were content analyzed for identification of the themes that emerged in the narrative responses of participants during the focus group. The findings for this exploratory-descriptive study are presented in the following chapter.

## **CHAPTER IV**

### **FINDINGS**

#### **Background**

At 10:37 AM on March 22, 2014 the community of Oso, Washington fell victim to a massive landslide. Within moments, the entire neighborhood of Steelhead Haven was inundated with mud and debris. The landslide blocked the path of the Stillaguamish River and caused flooding up stream of the slide. An estimated 10 million cubic yards of soil traveled 0.7 miles from its original location covering a 0.7 mile stretch of State Route 530 (Robertson, 2014). The catastrophic event claimed the lives of 43 residents, destroyed 40 structures (of which 30 were homes), and deeply impacted the entire town, as well as the nearby community of Darrington.

The response to the slide was marked with several successes. The most important of these are identified in the SR530 Landslide Commission Final Report (2014). The report notes that all of those that could have been saved were in fact rescued on the Saturday that the slide occurred. Additionally, all of the 43 victims were eventually recovered from the site. Given the magnitude of the disaster, these successes were almost unimaginable on the morning of March 22<sup>nd</sup>. However, the successes occurred alongside a lack of coordination between relief agencies, which left community members confused and angry.

#### **Emergent Themes**

##### **Confusion/Redundancy**

According to the focus group respondents, the residents of Oso dealt with a sometimes overwhelming amount of redundancy as they sought help. Two of the respondents, a married couple lost their home in the landslide, recounted their ordeal after making the two and half hour drive around to Darrington to register for aid:

“[T]hey kept saying; the Red Cross is going to be here, Red Cross, Red Cross, Red Cross. We waited and waited and waited, and they finally showed up, and they didn’t have any information. “Come back tomorrow, you know. ...there was a lot of duplications. You know, we filled out this paperwork, well then you have to, well no we don’t have that paperwork. So you have to do more paperwork, and” ...

Respondent 1: “Well, the next day they had us down at SV, the hospital in Mt. Vernon.”

Respondent 3: “Yeah, Skagit Valley Hospital.”

Respondent 1: “And now it was through the fire department, no it was the police department, and the, right one more department and we filled out paperwork. So there was no communication right there.”

Respondent 3: ...”And they said you need to go back to the fire department and that’s where they’ll approve that you guys are ok. And so we went back and we did it at the fire department and the community center, and they told us that we would have to wait there ... after spending the night, we went back the next morning and they had no information about us at all.”

Respondent 3 went on to add that she didn’t know what she would have done if it weren’t for her daughter’s assistance, which prompted Respondent 4 to add that there were still families dealing with the paperwork involved with aid and insurance one year after the landslide.

### **Lack of Community Input**

It is clear from those in attendance at the focus group that they did not feel that the relief agencies were even listening to their needs. Respondent 9 stated this most clearly by saying:

“I think that any feedback that we would give to them, or we heard about how they were going to come in and take over, how they don’t make any attempt to learn about the community they’re coming into. And it would make a huge difference ... Because they have their, their own protocols and procedures. That’s what they know and they don’t care about the rest.”

This statement is illustrative of the perception of the relief agencies that was communicated by the Oso residents at the focus group. Respondent 4 stated, “I think it’s, it’s, it’s hard for a small town to know the bigger scope of people that are trying to come into town, but boy, when you do see that face you know from another group or something else, it goes a long way.”

There appeared to be a lack of correlation between where money was being spent and where the community would like it to be. One respondent commented:

“There seems to have been a reaction to the initial rush of well-meaning mental health people. And it got to the point where most people, if you came up to them and said how are you doing, they wanted to smack you ‘cause they were just, everyone meant well, but it was just overload, and the timing was not right. And the trust issues, you just, walls went up and went up.”

According to respondent 4:

“I think, if there’s a, on a, on a broader level if you’re looking at the, you know, 35,000 foot level, inter-agency discussions, inter-agency talking to the locals is paramount in disasters. It doesn’t happen enough. From what I’ve seen. What do *you* need? What do *you* want? How do *you* want to see this unfold?”

An exchange during the focus group indicated that there were families that had been displaced by the slide who wanted to move back but have been unable to find land to purchase:

Respondent 4: “We’d like to find some opportunities to get these folks back on the earth there, but marijuana growers keep buying all the dirt up, so it’s kind of a hard deal”...

Respondent 1: “I mean at the very beginning they were talking about putting a housing thing in.”

Respondent 3: “Yeah, Catholic Community Services was looking in to that.”

Respondent 4: “We were pushing that at a county level, but uh.”

Respondent 3: “Yeah, yeah they wanted to put housing in.”

Respondent 4: “We begged ‘em, you know basically.”

According to Respondent 4, “There’s some folks that the Red Cross is like a swear word, because of the change in the valley. And you don’t say Red Cross around here pretty much at all.”

### **Local Knowledge of Area Landslides**

The next theme that emerged was a high level of knowledge on local landslides. The residents of Oso present at the focus group have been witness to a large number of smaller landslides over the course of their time living in the area. According to Respondent 1, “I think, I personally, I see it on my property, as it changes every year, a little bit.” An additional exchange revealed even more information:

Respondent 4: “Behind the, behind the place where I worked and lived we had a, a full slide in ‘09 during the big rainstorm and snowstorm in January that happened... [W]e’ve seen slides, there was that slide, we just saw what, a couple of years ago, just down the road here, seen the cut out of that.”

Respondent 7: “You can really see that well from (name omitted)’s” ...

Respondent 7: “It’s, it’s actually, the trees are so tall you don’t really see it, but you get a straight shot on it and it starts at the top and goes all the way to the bottom.”

Respondent 4: “Yeah, so some sloughs and stuff have been happening here forever.”

Respondent 1: “You know there’s that spot (name omitted) when you cross Montague Creek, right underneath the power line, have you noticed that? Last, every few years, that one spot has failed.”...

Respondent 1: “But that’s how this whole valley is, so we never get alarmed about it.”

### **Sense of Community**

The final theme that emerged was that there was, and still is, a strong sense of community among the Oso residents as evidenced by the following comments:

“Fortunately we have each other, and the communication level is tremendous, and we all know each other and we all understand what everyone else is going through. And we have a network of what’s happening.”

And another:

“[A] lot of times they step in and the local community says “oh, FEMA’s here. We’re stepping back, we’re not going to do anything. They’re here, they’re, they’re going to do everything. And, and that wasn’t going to happen here. This is our town. This is our people. This is our machines, our knowledge.”

## **CHAPTER V**

### **DISCUSSION OF FINDINGS**

#### **Confusion/Redundancy**

The lack of coordination among groups responding to a natural disaster poses a serious threat to the overall success of the relief and reconstruction effort. If the goal of a relief effort is to aid the people on the ground, then expediency in getting aid to recipients should be of utmost concern. Unfortunately, lack of coordination seems to be common in the U.S. following these events, as evidenced by the relief efforts following Hurricanes Rita and Katrina in 2005 (Olshansky & Johnson, 2015).

The delayed response and ensuing confusion on the part of residents could have been alleviated by the use of local aid groups that are familiar with the affected area as well as those who live there. As aid became available these same community-based aid groups would be able to distribute money to support projects aimed at rebuilding infrastructure for those directly affected by the disaster, should they choose to do so. The MDF in Indonesia was distributed in this manner successfully and on a much larger scale than that of Oso.

One of the benefits of a CDD approach is that due to the community involvement in the planning and implementation of projects, people have a vision of a tangible outcome and can see progress from the very beginning of the process. Participants in CDD programs have stated that they had a positive feeling about the program because it gave them something to work for and made them feel that their voices were heard (Fang, 2006). The opposite occurred in Oso.

#### **Lack of Community Input**

One of the criticisms of the CDD approach is that there is a risk of elite capture. Elite capture refers to the allocation of funds for uses that benefit an individual, or entity such as a

business, rather than the community. This becomes particularly troublesome in reconstruction efforts, as they are dominated by those in the planning and development arenas with little input from local residents (Fritzen, 2007). This is essentially what has happened in Oso. Rather than the available land being held in trust for the community members who lost their homes, it has been sold to the highest bidder, in this case the out-of-town growers of marijuana, which recently became legal in the State of Washington and generate tax revenues. With a community-driven approach, the voice of those directly affected by the landslide would have been heard immediately and given importance.

Following a widely publicized disaster such as the case was in Oso, there is an outpouring of generosity from people near and far from the affected area. Indeed, support for the residents of Steelhead Haven came in from throughout Washington State and beyond. If the community had a say over the way these funds were distributed, based on the information from the focus group, it would seem likely that there would have been an effort made to bring those displaced residents back with a housing project.

A large number of the financial donations made were to the Red Cross, which has made it a common practice to solicit donations for its Disaster Relief Fund. Following the Oso slide, the Red Cross stated on its website, “The best way to help is through a financial donation to Red Cross Disaster Relief... Donations will be used to prepare for, respond to and help people recover from disasters big and small. This includes the Oso landslide and nearly 70,000 other disasters we handle every year around the country” (American Red Cross, 2014, p. 1). While the Red Cross fulfills a role that may be lacking in most local planning, there is reason to ask whether someone seeing the devastation of a particular community and making a donation to an organization has a reasonable expectation that his or her money will actually go to the victims of

the disaster that motivated them to make the donation to begin with, rather than a general operating fund.

By establishing a community-driven approach to disaster management that integrates community groups into the planning process, those making donations could have the option of donating to a multi-donor fund to be administered by a community-based organization in the affected area. The result would be that 100% of the donated funds could be used for immediate and sustained relief and recovery. Following the landslide, Cascade Valley Hospital raised \$325,509 that was donated directly to Oso residents online through the website <http://www.youcaring.com/nonprofits/-cascade-valley-hospital-foundation-disaster-fund-/154422>. In comparison, the American Red Cross raised \$4.8 million as of February 23, 2015 (American Red Cross, 2015). The nearly \$5 million allocated to Oso by the Red Cross is worthy of note for two reasons. The first is that this would not be the total of the \$10 donations solicited by the Red Cross following the disaster, as this money is added to the Disaster Relief Fund which supports the 70,000 disasters that the organization responds to. The second is the perception of the Red Cross in the community. Given that the Red Cross has raised nearly half of the estimated \$10 million needed for relief and recovery, it would seem that the community would have a more favorable attitude towards the organization. If members of the community were involved in the decision-making process with regard to how this money was allocated, outcomes may have been different.

One of the areas of aid offered by the Red Cross was in physical and mental health, for which \$959,000 has already been allocated. The figures do not differentiate between expenditures on physical versus mental health and it is easy to imagine the physical health costs are high. Nonetheless, it seems apparent that much of the effort put into mental health has not

seen the benefits in the community that one would hope for. Particularly telling is the statement the respondent made, regarding the flood of mental health specialists, that, “the timing was not right.” If the community had input into the allocation of these resources, the majority of mental health funding could have been used elsewhere or reserved for services to be provided when people were ready to accept them.

The arguments against the World Bank’s top down approach led to the development of the CDD approach. The complaints against the Red Cross, as well as FEMA, that came up during the focus group have the same tone. Top down approaches appear to be ineffective at meeting the needs of those most affected in a disaster, while community-driven approaches have proven effective.

### **Local Knowledge of Area Landslides**

Given the complications that are inherent in the aftermath of any natural disaster, effective planning must be carefully undertaken in advance of a devastating event. As highlighted by Gore and Fischer (2014), environmental assessments added to disaster planning can be incredibly beneficial. In July of 2014, Washington State Governor Jay Inslee appointed a commission to evaluate the response to the landslide and identify what went right and what lessons could be learned to better respond to future natural disasters. In the commission’s final report to the governor, released the following December, the authors write, “The SR 530 [Oso] Landslide highlights the need to incorporate landslide hazard, risk, and vulnerability assessments into land-use planning, and to expand and refine geologic and geohazard mapping throughout the State” (2014, p. iii).

The findings of the commission are consistent with the strategy that has been implemented and proven successful in the MoSSaiC program in the Caribbean. In response to

the advice of the commission, in April 2015 Governor Inslee signed Senate Bill 5088 which calls for an increase in the use of Light Detection and Ranging (LiDAR). The technology uses lasers to create detailed surface maps even in places where there is dense forest, vegetation, or human development (Associated Press, 2015). The LiDAR maps provide an incredibly useful tool in disaster planning due to the level of detail they capture. A community-driven approach to the expanding and refining of geohazard mapping would add substantially to its effectiveness.

Eyewitness accounts, such as those of the focus group respondents, have been shown to be incredibly effective at identifying critical areas for mitigation through Anderson and Holcombe's work in the Caribbean. Keller (2011) notes that slopes which have experienced a previous slide are prone to reactivate in the future. In this respect, incorporating the firsthand accounts of residents such as those in the Oso focus group offers the opportunity to address areas that have a high likelihood to slide again, thus providing a clearer understanding of the true nature of the hazard. Gore and Fischer (2014) identified the importance of environmental impact assessments for disaster planning prior to an event taking place, and these firsthand accounts should be included in those assessments. By establishing, through policy, that relief efforts are to utilize a community-driven approach, information provided by residents would take on a higher level of importance in planning decisions.

### **Sense of Community**

The case of Oso illustrates the need for national organizations to recognize local residents as valuable resources. In Oso, the residents were not only resources for knowledge of local terrain and conditions, but also the key resource for post-disaster community resilience. As Post-Normal Science theory highlights, the inclusion of all stakeholders leads to more positive outcomes (Funtowicz & Ravetz, 1993). The focus group respondents made repeated reference to

instances where community input was not taken into account. This was illustrated in comments such as that regarding the failed attempt to build housing to bring back community members who had lost their homes in the landslide. These failures to include local stakeholders in the planning process led to a lack of trust as well as anger with relief agencies. Members of a given community, particularly in rural areas such as Oso, know what the community is in need of; therefore, they are better suited to address those needs than agencies from outside the community. A community-driven approach would have allowed the sense of community already present in Oso to be harnessed and utilized in the relief effort.

Accepting that communities consist of not only a territorial element but also a social element of equal, perhaps even greater importance, leads to very significant implications. In properly addressing the needs of a community, disaster relief policies must take into account the nature of both the hazard and the community resources available to relief agencies, including local residents themselves. CDD projects have elicited a positive feeling in participants regarding the outcome and the effect on the community. The benefit this offers in terms of community resiliency immediately following a disaster cannot be understated. If the goal of a relief or rebuilding process is to return normalcy and functionality to those affected, outside agencies such as FEMA and the Red Cross must include community members in their decision-making protocols. This is where the strength of a community-driven approach arises. It should become part of the organization's operational protocols to involve community members in all efforts of the relief and rebuilding stages. The focus group responses illustrate that the strong sense of community that existed in Oso prior to the slide was of great help in the immediate aftermath, as well as nearly a year later when the focus group took place. A community-driven approach

would utilize this intangible sense of community as a valuable resource for the long term benefit of the residents of Oso.

## **CHAPTER VI**

### **CONCLUSION**

Community-driven development has been demonstrated to be an effective method of meeting the needs of those affected by natural disasters, as well as other development issues such as poverty and lack of infrastructure. The success of KDP, UPP, and subsequently Rekompak in Indonesia illustrate that while these projects are carried out on a community level, they are nonetheless capable of being adopted on a larger scale. This is evident when considering that KDP was the largest development project in Southeast Asia, as Guggenheim (2015) points out.

CDD is effective because of the fact that it incorporates the efforts of all of the stakeholders involved in a given project. This is something that is lacking in the United States. The focus group responses of the residents of Oso, Washington reveal a community which looked inward for support following the massive landslide. While they did receive aid from groups such as the National Red Cross and FEMA, there was such a level of confusion, redundancy, and mistrust that money was spent in inefficient ways and was of little benefit to the residents involved.

If the residents of Oso had been incorporated into the planning process there would have been a different outcome. Rather than being flooded with mental health services, they may have chosen to spend that money on immediate needs such as food and housing. Rather than land being bought up by marijuana growers, the land could have been held in trust for those in the community that lost their homes in the disaster. Rather than confusion, the residents could have been provided with clear information from a trusted source. A community-driven approach to disaster management and planning could have avoided many of the pitfalls which have been experienced by those in disasters.

The purpose of CDD is not to bypass existing institutions which have expertise in certain areas, but to enhance that expertise with information from those directly involved the outcomes of a project. FEMA and the Red Cross have support networks that local communities do not, but if these resources are not used in a way that benefits the community then they do not serve their intended purpose. Undoubtedly, those in the Red Cross or FEMA have chosen their careers because they are concerned with helping those in need. It is time for these organizations to take a cue from the World Bank and begin a process of decentralization of disaster relief. Goals and needs should be unique from one disaster to the next. As several focus group participants mentioned, disaster-relief preparations were made in reference to urban settings, which have vastly different needs than a small, rural town such as Oso.

The embracing of a community-driven approach in disaster relief planning may have the ability to prevent the misallocation of relief funds, provide information on the nature of the problems facing the community, as well as giving the community a sense of belonging and purpose following a disaster. In too many instances, the relief agencies on the ground stood in the way of the community's ability to move forward. As the climate continues to warm, predictions are that frequency and magnitude of natural disasters will increase. The policies guiding our response to natural disasters are outdated and, in order to adapt to the times we are living in, desperately need to be updated. This research has illustrated the need for further studies on the application of CDD in the U.S., and rural locations in particular. While there are large differences between the countries of Indonesia, St. Lucia, and the United States, there is one basic similarity: the goal of relief in each is to ease the burden on those immediately affected. The goal of disaster planning should be to address the needs of the affected people. Community-Driven Development has shown to be an effective means of accomplishing such a goal.

## REFERENCES

- Anderson, M. G., Holcombe, E., Blake, J. R., Ghesquire, F., Holm-Nielsen, N., & Fisseha, T. (2011). Reducing landslide risk in communities: Evidence from the eastern Caribbean. *Applied Geography*, *31*(2), 590-599.  
doi:<http://dx.doi.org.offcampus.lib.washington.edu/10.1016/j.apgeog.2010.11.001>
- Anderson, M. G. & Holcombe, E. (2013). *Community-based landslide risk reduction: Managing disasters in small steps*. Washington, DC: World Bank.
- Associated Press. (2015). Governor signs bill to boost mapping of geologic hazards. *Seattle Times*. Retrieved from: <http://www.seattletimes.com/seattle-news/governor-signs-bill-to-boost-mapping-of-geologic-hazards/>
- Arnold, M., Mearns, R., Oshima, K., & Prasad, V. (2014). *Climate and disaster resilience: The role for community-driven development*. Washington, DC: Social Development Department, World Bank.
- Borrero, J. C., McAdoo, B., Jaffe, B., Dengler, L., Gelfenbaum, G., Higman, B., Kongko, W. (2011). Field survey of the March 28, 2005 nias-simeulue earthquake and tsunami. *Pure and Applied Geophysics*, *168*(6-7), 1075-1088.  
doi:<http://dx.doi.org.offcampus.lib.washington.edu/10.1007/s00024-010-0218-6>
- Bowen, G. A. (2005). Local-level stakeholder collaboration: A substantive theory of community-driven development. *Community Development*, *36*(2), 73-88. Retrieved from: <http://search.proquest.com.offcampus.lib.washington.edu/docview/224654240?accountid=14784>
- Bryman, A. (2004). *Social research methods* (2<sup>nd</sup> ed.). New York: Oxford University Press.
- Fang, K. (2006). Designing and implementing a community-driven development programme in Indonesia. *Development in Practice*, *16*(1), 74-79. Retrieved from: <http://www.jstor.org/stable/4029862>
- Frazer, E. (1999). *The problems of communitarian politics: Unity and conflict*. Oxford: Oxford University Press.
- Fritzen, S. A. (2007). Can the design of community-driven development reduce the risk of elite capture? Evidence from Indonesia. *World Development*, *35*(8), 1359-1375.  
doi:10.1016/j.worlddev.2007.05.001
- Funtowicz, S., & Ravetz, J. (1993). Science for the post-normal age. *Futures*, *25*(7), 739-755.  
doi:10.1016/0016-3287(93)90022-L
- Gore, T., & Fischer, T. B. (2014). Uncovering the factors that can support and impede post-disaster EIA practice in developing countries: The case of Aceh province,

- Indonesia. *Environmental Impact Assessment Review*, 44, 67-75.  
doi:10.1016/j.eiar.2013.09.001
- Gusfield, J. R. (1975). *Community: A critical response* (1st English language ed. ed.). New York: Harper & Row.
- Guggenheim, S. (2015). *Crises and contradictions: Understanding the origins of a community development project in Indonesia*. Washington DC: The World Bank.
- Horowitz, C. R., Robinson, M., & Seifer, S. (2009). Community-based participatory research from the margin to the mainstream. *Circulation*, 119, 2633-2642.
- International Fund for Agricultural Development [IFAD]. (2009). *Community-driven development tools for rural development programmes*. Rome: International Fund for Agricultural Development.
- Keller, E. (2011). *Environmental geology*. Upper Saddle River, N.J.: Pearson Prentice Hall.
- Marshall, B. K., & Picou, J. S. (2008). Postnormal science, precautionary principle, and worst cases: The challenge of twenty-first century catastrophes. *Sociological Inquiry*, 78(2), 230-247. doi:10.1111/j.1475-682X.2008.00236.x
- McMillan, D. W., & Chavis, D. M. (1986). Sense of community: A definition and theory. *Journal of Community Psychology*, 14(1), 6-23. doi:10.1002/1520-6629(198601)14:1<6::AID-JCOP2290140103>3.0.CO;2-I
- Multi Donor Fund for Aceh and Nias, Java, R. F., & World Bank, I. O. (2012). *Rekompak: Rebuilding Indonesia's communities after disasters*. Jakarta: Secretariat of the Multi Donor Fund for Aceh and Nias and the Java Reconstruction Fund, World Bank.
- Olshansky, R. B., & Johnson, L. A. (2014). The evolution of the federal role in supporting community recovery after U.S. disasters. *Journal of the American Planning Association*, 80(4), 293-304. doi:10.1080/01944363.2014.967710
- The American National Red Cross. (2014). *Red Cross supports Washington families during difficult time*. Washington, DC: Author.
- The American National Red Cross. (2015). *Washington landslide one-year update March 2015* (pp 1-2). Washington, DC: Author.
- The SR 530 Landslide Commission. (2014). *SR 530 Landslide Commission final report*. Retrieved from:  
[http://governor.wa.gov/sites/default/files/documents/SR530LC\\_Final\\_Report.pdf](http://governor.wa.gov/sites/default/files/documents/SR530LC_Final_Report.pdf)

The World Bank. (2015). *Community-driven development overview* (pp. 1-4). Washington, DC: Author.

The World Bank. (2015). *Projects and operations*. Retrieved from:

<http://www.worldbank.org/en/topic/communitydrivendevelopment/projects/all>

## APPENDIX A

### Recruitment Flyer

---

#### Implication and Importance of Community Involvement in Disaster Relief

We are seeking to talk to individuals who were residents of Oso, WA at the time of the 2014 mudslide about their experiences. We are interested in exploring the impact of this disaster on you and your family and on the environment.

Inclusion criteria:

- Resident of Oso, WA at time of 2014 mudslide
- Must be age 18 years of age or older
- Must speak English

**Please contact Ryan Brookman or Ganita Musa  
(University of Washington Tacoma)**

**at (253) 692-4554 or [rbrkmn81@u.washington.edu](mailto:rbrkmn81@u.washington.edu) or [ghm2@uw.edu](mailto:ghm2@uw.edu) if you meet the inclusion criteria and are interested in voluntarily participating in this research study.**

A focus group for this research study will take place on March 7, 2015 at the Restaurant at Rhodes River Ranch and will be two hours in length. Participation in this study is completely voluntary.

THANK YOU FOR YOUR INTEREST!

## APPENDIX B

### UNIVERSITY OF WASHINGTON

### CONSENT FORM

#### **Implication and Importance of Community Involvement in Disaster Relief**

Researchers: Ryan Brookman, Undergraduate Student/Principal Investigator, Interdisciplinary Arts and Sciences Department, [rbrkmn81@u.washington.edu](mailto:rbrkmn81@u.washington.edu), (253) 692.4554

Ganita Musa, Undergraduate Student/Researcher, Social Work Program, [ghm2@uw.edu](mailto:ghm2@uw.edu), (253) 692.4554

Marian S. Harris, PHD, LICSW, Associate Professor/Faculty Adviser, Social Work Program, [mh24@u.washington.edu](mailto:mh24@u.washington.edu), (253) 692.4554

#### **Researchers' statement**

We are asking you to be in a research study. The purpose of this consent form is to give you the information you will need to help you decide whether to be in the study or not. Please read the form carefully. You may ask questions about the purpose of the research, what we would ask you to do, the possible risks and benefits, your rights as a volunteer, and anything else about the research or this form that is not clear. When we have answered all your questions, you can decide if you want to be in the study or not. This process is called "informed consent." We will give you a copy of this form for your records.

#### **PURPOSE OF THE STUDY**

Natural disasters are unpreventable occurrences that take place, ranging from mild to absolutely destructive. The purpose of this study is to examine the role that community involvement plays in the aftermath of a natural disaster. Although there many rugged, beautiful, and dynamic landscapes in the state of Washington, these landscapes present hazards from natural disasters (earthquakes, small and large landslides, annual flooding, and wild land fires). This research will examine the experiences of residents of Oso, WA before and after the 2014 mudslide including the link between Community Driven Development and long-term community goals.

## **STUDY PROCEDURES**

Ten residents of Oso, WA (female and male) will be recruited to voluntarily participate in this exploratory-descriptive research study. Potential subjects will be recruited via a flyer posted at the Restaurant at Rhodes River Ranch.

When potential subjects call the researchers they will be screened to make sure they meet the inclusion criteria and voluntarily agree to participate in the study. Inclusion criteria are as follows: (a) resident of Oso, WA at the time of the 2014 mudslide; (b) age 18 or older; and (c) speaks English.

The researchers will schedule an appointment for individuals to participate in a focus group on March 7, 2015; the focus group will last for two hours. The following are sensitive and person questions that will be asked during the focus group: Were you or any members of your family seriously injured or killed because of the mudslide? Did you fear that you might be seriously injured or killed because of the mudslide last year? Was your home extensively damaged or destroyed? Have you experienced feelings of hopelessness, frustration, or depression since the mudslide? Participants may refuse to answer any question; they may refuse to participate or withdraw from the study.

Prior to the beginning of the focus group the purpose of the study, study procedures, risk and benefits of the study, participant's rights, and consent procedures will be explained to participants. Each participant will be asked to read the consent for participation in a research study form. If participants have questions the researchers will answer their questions. After all questions have been answered each participant will be asked to sign two copies of the consent form. One copy of the consent form will be given to each participant and one copy of the consent form will be placed in each participant's file. The focus group will be conducted after completion of the consent procedures.

## **RISKS, STRESS, OR DISCOMFORT**

Participants might experience some emotional discomfort when discussing their experiences before and after the 2014 mudslide. The Faculty Adviser will be available during and after the focus group for a debriefing session if needed by any participant who experiences emotional discomfort.

Responses of participants to questions asked during the focus groups will be audio-taped and type verbatim by the researchers. Participants will be given an opportunity to review recordings and delete any portions after the focus group. All audio-taped recordings will be destroyed after the researchers have typed responses of participants.

## **BENEFITS OF THE STUDY**

There are no direct benefits to individual subjects for participation in this research. Data collected in this research will be used to demonstrate the significance of using a Community Driven Development Model in communities that have encountered a mudslide, landslide, or

some other natural disaster in Washington State as well as in other geographical areas. Another benefit to society is to provide data that demonstrates the lasting benefits of disaster relief to local communities.

### **CONFIDENTIALITY OF RESEARCH INFORMATION**

All Consent Forms will be kept separate from the interview data and linked through a randomly selected code number. Following the study, all research data and documents will be kept in a locked file cabinet in the Faculty Adviser's office and destroyed after three years. Any presentations or published articles regarding this study will include disguised information to protect confidentiality of participants.

All information you provide will be kept confidential. However, there are limits to confidentiality. The researchers cannot assure confidentiality because you are participating in a focus group. All participants in the focus group will be asked not to disclose information discussed in the focus group; however, the researchers cannot assure that confidentiality will not be breached.

### **OTHER INFORMATION**

You may refuse to participate and you are free to withdraw from this study at any time without penalty or loss of benefits to which you are otherwise entitled. There are no costs to you for participating in this study.

### **RESEARCH-RELATED INJURY**

If you get sick or hurt in this study, you will receive a referral for medical treatment. The University of Washington (UW) Human Subjects Assistance Program (HSAP) will provide medical care for medical problems caused by the research. The care will be provided at these locations:

- UW Medical Center
- Harborview Medical Center
- UW Neighborhood Clinics
- Hall Health Center

The UW will waive the cost of care, up to a total of \$250,000. You will be billed for charges that are in excess of this amount or that are not covered by the HSAP. If you choose to obtain medical treatment somewhere else, the HSAP will reimburse you for up to \$10,000 for medical treatment upon submission of receipts. This applies only to eligible UW research procedures, as described at this website

<http://www.washington.edu/research/hsd/topics/Human+Subjects+Assistance+Program>. The

website describes how and where to obtain the assistance. You can also ask Dr. Marian S. Harris, Faculty Adviser, (253) 692.4554 for information.

You will have to pay for non-reimbursed expenses. If you think your health insurance would pay for any uncovered expenses, you will be responsible for submitting those expenses to your health insurer. The law may allow you to seek payment for these expenses if they are caused by malpractice or the fault of the researchers. You do not waive any right to seek payment by signing this consent form.

\*“Healthy volunteers” are defined as subjects whose inclusion in the research is not based on having a physical, mental, or emotional disorder or abnormality, and who do not have a known pre-existing physical, mental or emotional disorder or abnormality that is relevant to the objectives of the research.

---

Printed name of study staff obtaining consent      Signature

Date

Subject’s statement

This study has been explained to me. I volunteer to take part in this research. I have had a chance to ask questions. If I have questions later about the research, or if I have been harmed by participating in this study, I can contact one of the researchers listed on the first page of this consent form. If I have questions about my rights as a research subject, I can call the Human Subjects Division at (206) 543-0098. I will receive a copy of this consent form.

---

Printed name of subject

Signature of subject

When subject is a minor:

---

Printed name of parent

Signature of parent

When subject is not able to provide informed consent:

---

Printed name of representative

Signature of representative

---

Relationship of representative to subject

Copies to:    Researcher

                  Subject

## **APPENDIX C**

THE RESTAURANT AT RHODES RIVER RANCH  
22016 Entsminger Road  
Arlington, WA 98332

---

---

January 23, 2015

Marian S. Harris, PhD, LICSW  
Associate Professor  
University of Washington Tacoma  
Social Work Program  
1900 Commerce Street  
Tacoma, WA 98402-3100

Dear Dr. Harris:

This letter is to inform you that you and your students, Ryan Brookman and Ganita Musa have our permission to post the recruitment flyer for your research study, *Implication and Importance of Community Involvement in Disaster Relief*, at the Restaurant at Rhodes River Ranch. You and your students also have permission to meet with any residents who volunteer to participate in the research study at the restaurant for the focus group.

Please do not hesitate to contact me if we can be of further help to you.

Sincerely,



Bonnie Rose  
Manager

## Phone Script

---

---

### Implication and Importance of Community Involvement in Disaster Relief

Hello thank you for calling regarding the Community Involvement in Disaster Relief research study. What is your name? After the caller states name, the researcher will inform caller of her/his name. As stated in the recruitment flyer, we are interested in interviewing individuals of Oso, WA who were residents at the time of the 2014 mudslide to discuss their experiences before and after the mudslide.

I would like to ask you a few questions to make sure that you meet the inclusion criteria for participants in this research study. Were you living in Oso, WA at the time of the 2014 mudslide? Are you 18 years of age or older? Do you speak English? Are you willing to voluntarily participate in a two hour focus group that will include nine other residents of Oso, WA? If the answer to any of the aforementioned questions is “No” the researcher will thank the person for calling and state that he/she does not meet the inclusion criteria for participation in the research study. If the answer to all of the aforementioned questions is “Yes” the caller will be informed that she/he meets all of the inclusion criteria.

The researcher will ask the caller, “Do you have questions that you would like to ask? If the caller has questions the researcher will answer her/his questions. Researcher will say, “I would like to have you attend the focus group at 3:00 p.m. on March 7, 2015 at the Restaurant at Rhodes River Ranch.

Again, thank you for calling and for your willingness to voluntarily participate in this research study. I look forward to meeting you on March 7, 2015. If for some reason you are unable to come and participate in the focus group, please contact me at (253) 692-4554. Goodbye.

**APPENDIX E**

## Demographic Information

## Information and Implication of Community Involvement in Disaster Relief

Participant ID #: \_\_\_\_\_ Date: \_\_\_\_\_

Age: \_\_\_\_\_ Gender: \_\_\_\_\_ Marital Status: \_\_\_\_\_

Education: \_\_\_\_\_ Occupation: \_\_\_\_\_

Annual Income: \_\_\_\_\_ Religious Affiliation: \_\_\_\_\_

**APPENDIX F**

## Focus Group Questions

- 
1. What was your level of awareness of the threat posed by landslides in the Stillaguamish Valley prior to the Oso mudslide last year?
  2. Were you or any members of your family seriously injured or killed because of the mudslide?
  3. Did you fear that you might be seriously injured or killed because of the mudslide last year?
  4. Was your home extensively damaged or destroyed?
  5. Have you received information from the county or state government officials regarding any other potential threats of landslides?
  6. Do you feel your questions and concerns have been adequately addressed by government officials?
  7. Describe your experience and feelings immediately after the disaster.
  8. What resources and/or supports were most helpful to you immediately after the disaster?
  9. What do you think can be done differently to assist individuals who experience a natural disaster?
  10. Have you experienced feelings of hopelessness, frustration, or depression since the mudslide?
  11. Were you in attendance at the WSDOT community meetings? \_\_\_\_\_ Yes \_\_\_\_\_ No  
If yes, how would you describe the level of community involvement in the meetings?
  12. Did you make use of the Disaster Information Center set up by Snohomish County in Darrington? \_\_\_\_\_ Yes \_\_\_\_\_ No
  13. Would you be interested in participating in a community group trained to monitor slope stability in the Stillaguamish Valley? \_\_\_\_\_ Yes \_\_\_\_\_ No
  14. What did you learn from this experience?

## APPENDIX G

## Letter From UW Human Subjects Review Committee

**W** UNIVERSITY of WASHINGTON  
HUMAN SUBJECTS DIVISION

---

*Date: February 3, 2015*

*PI: Ryan Brookman, Student  
IAS, Environmental Studies  
University of Washington Tacoma  
Box 358436*

*Re: 49057 EG, Human Subjects Application  
"Implication and Importance of Community Involvement in Disaster Relief"*

*CC: CC: Dr. Marian Harris, Faculty Sponsor ([mh24@uw.edu](mailto:mh24@uw.edu))  
Ms. Ganita Musa, Student ([ghm2@uw.edu](mailto:ghm2@uw.edu))*

*Dear Mr. Brookman:*


*The Human Subjects Division received the above-named item on January 26, 2015. This application has been assessed by Subcommittee EG. As the application describes, this activity involves a focus group to study one particular circumstance and location (reactions to the aftermath of the 2014 Oso, WA landslide). You have specified in response to pre-determination questions that you are looking at one particular group in one particular context. Hence:*

- *The activity is not designed to create knowledge that is generalizable.*

*Based on this information and the definition of "research" under 45 CFR 46.102(d), the UW Human Subjects Division has determined that this activity does not meet the federal definition of "research." This determination means that the activity is not subject to 45 CFR 46 and does not require review by the IRB. Please keep a copy of this letter for your records.*

*If you have further questions or concerns, feel free to contact me.*

*Best regards,*



*Elizabeth Falsberg, PhD  
Human Subjects Review Administrator  
UW IRB Subcommittee EG  
[falsberg@uw.edu](mailto:falsberg@uw.edu)  
206-543-2921*

## APPENDIX H

### Focus Group Demographic Information

**Table 1. Frequency Distribution of Sample**

CHARACTERISTIC	FREQUENCY
<b>Age</b>	
30	1
37	1
43	1
50	1
58	1
63	1
67	3
68	1
<b>Marital Status</b>	
Married	9
Single	1
<b>Education</b>	
High School Diploma	4
1 Year College	1
2 Years College	1
B.A.	2
M.S.	1
Unknown	0
<b>Religious Affiliation</b>	
Catholic	1
Christian	2
Faith-Filled	1
Protestant	1
None	5
<b>Occupation</b>	
Mechanic/Firefighter	1
Ranch-Hand	1
Ranch Manager	1
Retired	2
Secretary	1
Self-Employed	1
Support Staff Supervisor	1
Truck Driver	1
Unknown	1