CATASTROPHE AND DISPLACEMENT: AN EVALUATION OF SOCIOECONOMIC CONDITIONS IN PARADISE, CALIFORNIA AFTER THE CAMP FIRE

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ABSTRACT

CATASTROPHE AND DISPLACEMENT: AN EVALUATION OF SOCIOECONOMIC CONDITIONS IN PARADISE, CALIFORNIA AFTER THE CAMP FIRE

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The purpose of my research is to evaluate the effectiveness of disaster recovery efforts in small communities, particularly in relation to the micro-communities that form after displacement. In some cases, government aid has been insufficient, exacerbating existing socioeconomic inequalities and causing further harm to affected communities. This thesis examines Paradise as an example of community resiliency after catastrophe through the lenses of social vulnerability, resource access, and place-making. My work in Paradise also contributes to broad discussions of migration and displacement caused by environmental catastrophes as well as more specific issues of gentrification and community building. The key questions being asked include:

1. What are the social components of wildfire recovery?
2. What happens to small communities in the aftermath of catastrophe?
3. What kind of micro-communities are forming in the wake of destruction?
4. Are communities' needs being addressed?

To conduct this research, I used a mixed-methods approach that included qualitative and quantitative methods. I collected qualitative data through personal narrative interviews with current and former Paradise residents who experienced the Camp Fire. I then sourced quantitative data from the U.S. Census and real estate data. Through my analysis of these data I highlight the importance of considering factors of resiliency and social vulnerability when

evaluating the effectiveness of disaster recovery programs. Four years have passed since the Camp Fire, allowing me to observe the community during more advanced stages of rebuilding and to interview both new and long-time residents. The insights gained from this research could inform policies and programs aimed at supporting communities like Paradise who are affected by frequent, intense natural disasters.

In the Discussion portion of this thesis I examine the broader implications of disasters like the one that occurred in Paradise. Rebuilding disaster sites and restructuring communities after catastrophes can have long-lasting effects on small communities, potentially leading to prolonged homelessness for environmental migrants and deepening existing socioeconomic inequalities. There are communication flaws within intergovernmental organizations that, if addressed, could save lives and help stabilize at-risk areas as natural disasters become more frequent worldwide. The insights gained from my research could be used by other state and national government programs to mitigate the physical, structural, and psychological harm experienced by affected populations. To reduce post-catastrophe harm, it is essential to identify key similarities and difficulties experienced by affected populations. The information and analysis presented in my thesis is relevant not only to the tragedies faced by Paradise but also to the broader systems of government and civil society that have the resources to mitigate community suffering.

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Background

On November 8th, 2018, one of the deadliest and largest fires in California's history ravaged Paradise, California, surpassing the unnamed 1933 fire in terms of destruction by claiming the lives of 85 individuals and displacing 52,000 others, according to the U.S Census Bureau (2021). The socioeconomic impact of this tragedy caused significant changes to local businesses and resident demographics in the years that followed.

Before 2018, Paradise had a diverse population that included retirees over the age of 60, multi-generational landowners, individuals living below the poverty line, and those living "off-grid" in the Concow area. The community was divided between marginalized groups and those who were attracted to Paradise for its affordable land and dense forests. Wealthier community members frequently built lavish homes and estates along the lakefront, while mobile homes dotted the landscape. Paradise is situated atop a narrow ridgeline, flanked by steep canyons on both sides, which were once filled with massive oak trees that were rarely thinned. Due to the lack of tree maintenance, high winds, and challenging terrain, an unmaintained PG&E power line fell and sparked the 153,336-acre blaze (CAL Fire, 2019).

In the affected areas of Paradise, Magalia, and Concow, Butte County residents faced a collective trauma as evacuees seeking refuge in nearby cities such as Oroville and Chico. However, in less than three years, another devastating wildfire hit the county. The Dixie Fire started on July 13, 2021, in Butte County and burned 1,505 square miles, making it the largest single wildfire in California's history (Bermal, 2021). The occurrence of two catastrophic wildfires within such a short time span underscored the pre-existing socioeconomic conditions of the region, which were

exacerbated by a lack of planning, including inadequate health care, infrastructural issues, and a staggering number of displaced persons (Edgeley, 2021). The immeasurable loss faced by Butte County residents and nearby Plumas County residents between both fires led to approximately 78,500 overall displaced persons (US Census Bureau). In losing 87% of residential homes in 2018, Paradise's population decreased by 21,892 individuals while nearby Chico increased by 19,250 (Cross, 2021). The wildfires led to a significant increase in internal migration, which put a strain on public services and forced local governments to quickly implement plans for community resilience. As of 2022, local recovery efforts are ongoing and include the provision of temporary housing such as mobile homes or camper vehicles, distribution sites for relief supplies, and resources for food and water (Butte County Recovers, 2021). The displacement of thousands of people has had a traumatic impact on their communities, which are still in the process of recovering.

Foundational literature that supports this work is interdisciplinary, weaved between social and biological sciences. I have separated the categories of literature related to my research findings into three central themes: *strategic rebuilding, place making and belonging, and imagined futures*. Available academic works support both the concepts of my preliminary research as well as my findings following my research. The literature available regarding the fire events, recovery plans, and the experiences of migrants and displaced persons include research from authors like Dr. Catrin Edgeley, a natural resource sociologist at Northern Arizona University, Dr. Charles R. Wise, the founding director of the John Glenn School of Public Affairs at The Ohio State University, and Dr. Daniela Domínguez and Dr. Christine Yeh, from the Department of Counseling Psychology at University of San Francisco. Edgeley writes in "Exploring the social

legacy of frequent wildfires: Organizational responses for community recovery following the 2018 Camp Fire" that the increase in catastrophes such as wildfires that directly influence mass migration should correlate with improved recovery assistance planning (Edgeley, 2021). Edgeley's study is significant in its examination of the social legacy of frequent wildfires, which is often overlooked in disaster response and recovery efforts. Her findings suggest that organizations have a critical role to play in the recovery process, and that collaboration between organizations and the affected communities is essential for a successful recovery outcome. The study also highlights the importance of considering the social impacts of frequent wildfires in disaster response and recovery planning, as well as the role of non-profit organizations in these efforts. Variable socioeconomic conditions pre-disaster should be taken into account when governments create action plans that mitigate harm before the event occurs. The care needs of community members are not static and may change throughout the fire event, meaning that action plans must be flexible. Edgeley also reports from local narratives that a limited knowledge and communication base from recovery organizations led evacuees to adapt independent forms of aid (Edgeley, 2021).

In "Accountability in Collaborative Federal Programs—Multidimensional and Multilevel Performance Measures Needed: The Case of Wildland Fire Prevention," Wise (2021) discusses the challenges of holding multiple parties accountable in collaborative federal programs. Wise observes that policies related to fire management are often inconsistent and prioritize immediate results over long-term solutions. He suggests that intergovernmental agencies are not to blame, but rather face complex network issues that can lead to harm and losses. Wise's work echoes the socioeconomic consequences detailed in Edgeley's research and highlights the need for

reconciling local, state, federal, and Indigenous land management policies. In "Social justice disaster relief, counseling, and advocacy: the case of the Northern California wildfires," Dominguez and Yeh (2018) take a psychosocial approach and examine the challenges faced by vulnerable populations in the aftermath of structural failures. They advocate for decolonizing disaster relief by acknowledging the impact of climate disasters on various factors, such as household environment, economic status, resource availability, shelter, and access to medical care.

One suggested strategy for protecting wildland-urban interfaces is harm reduction. Harm reduction surrounding fire events can be promoted through coexistence with climate disasters and environmental catastrophe, as described in “Learning to coexist with wildfire” (Moritz et. al 2014). Moritz describes concepts of coexistence with at-risk spaces as a way to anticipate community needs. This perspective of coexistence is pivotal for wildfire management strategies and aid policies for at-risk areas such as Butte County. Moritz also explains that high-fire-risk communities understand their exposure, yet there still exists a tenuous link between understanding such risk and taking action to mitigate it, making coexistence strategies critical to survival. In the case of the Camp Fire, the issue of wildland-urban interface (WUI) and its inhabitants became the source of fire regimes working to reduce hazard exposure and community vulnerability. Moritz’s work reflects that of Dr. Charles Wise, in that learning from and minimizing the harmful effects of fire will open links between systems that trigger social and political change (Moritz et al., 2014). It is crucial for communities living in WUI zones to implement measures for reducing the risk of future wildfires, such as fire-resistant landscapes,

community planning, and increased public education. Effective planning and risk reduction can help minimize displacement and reduce the impacts of future fires.

Introduction

The aim of my thesis is to investigate social vulnerability, access to resources, and disaster mitigation policy by conducting both qualitative and quantitative research. Additionally, I will be using my work in Paradise to contribute to the ongoing discussions on environmental migration and displacement caused by environmental catastrophes. I include discussion of more nuanced topics like displacement, violence, gentrification, and layers of community building. Through my analysis of interviews and data, I have identified gaps in aid access and interagency migration policy by examining layers of community and shifts in socioeconomic conditions over time. These findings have potential policy implications that could improve the response to environmental disasters and aid those who are affected.

When individuals lack the preparation or support networks to maintain their quality of life in times of crisis, they may experience vulnerability. While external factors like socio-spatial status or financial stability may offer the comfort of a safety net, the inequity of aid distribution and overall risk divides already vulnerable populations into those who will receive adequate aid, and those who will not. In times of crisis, vulnerability extends beyond the individual and into economically at-risk areas as a whole. Marginalized groups, such as immigrant, Indigenous, POC, LGBTQA+, and disabled populations lack sufficient support from county and state governments during disasters. This increases the chances of their experiencing extreme harm

through destabilized health care and inaccessible financial support. Each of these factors contributes to the mass displacement of individuals in affected areas. In the case of rapid displacement seen in Butte County, infrastructural development and intergovernmental contingency planning that *anticipates* rather than *reacts* to environmental hazards could support sustainable migration that prioritizes the safety of vulnerable populations.

Throughout this thesis I include a more broad discussion of displaced persons due to natural disasters, for which I use the term *environmental migrant*. The term refers to individuals who migrate due to the impacts of environmental degradation, such as sea level rise, droughts, and extreme weather events. Other categories of migrants such as economic migrants, anticipatory migrants as well as internally displaced persons are equally as vulnerable to other push and pull factors of migration, but are put at further risk due to a rapidly changing climate. Wildfires similar to the Camp Fire contribute to the mobilization and mass displacement of communities, particularly in areas where the frequency and intensity of wildfires is increasing due to a changing climate. Displaced residents face numerous challenges including loss of property, access to resources, and social networks, as well as the psychological trauma of displacement. Addressing the needs of displaced persons from any catastrophe requires a coordinated and multi-disciplinary approach, including disaster response and recovery efforts, housing and resettlement programs, and longer-term adaptation strategies to reduce future risk. It is important when collecting the personal disaster narratives to contextualize macro and micro inequalities that compete with one another during catastrophic events. Macro inequalities can look like systemic inequalities that cause extreme shifts in marginalized populations during evacuation processes or during aid disbursement. Micro inequalities include interpersonal aggressions that affect how an individual relates to the spaces they inhabit, as well as prejudice experienced

throughout the migratory experience that can affect how an individual evaluates their safety (Dominguez, 2018). Butte County, a largely low-income and rural area, lacks major mitigation efforts in comparison to areas with higher population density. This leads to community members lacking consistent support networks, which can negatively impact their overall quality of life, thereby overwhelming neighboring welfare systems.

Literature Review

Strategic Rebuilding

When approaching the structural framework of recovery strategies after a disaster such as the Camp Fire, disaster mitigation strategies need to be reflective of the area's needs and be able to be communicated in a way that is accessible to all residents. More importantly, such strategies should become a concrete part of recovery policies that allow aid programs to withstand multiple disasters in an effective way. In Paradise, there is an importance placed on fire education and infrastructural changes to occur rapidly after the fire occurred. Community programs such as the Butte County Fire Safe Council coordinated education outreach programs as well as funded road widening projects, the fire hardening of newly built homes, the expansion of neighborhood streets to have evacuation routes, and application for early warning sirens. The strategies implemented on a local level reflect larger policy networks in state and national governments regarding climate mitigation strategies and disaster response agencies; all of which reflect conflicting disaster recovery ideologies of proactive policy versus reactive responses. Two years following the Camp Fire, researchers Matthew L. Spialek, Myria W. Allen and Christopher A. Craig investigated factors of motivation for seeking wildfire preparedness and sharing

resilience-building messages within disaster communication ecologies (Spialek et al., 2021). Their study of 407 participants who experienced the 2018 Camp or Mendocino Complex Fires found that factors of climate risk perception, descriptive norms, and pre-event citizen disaster communication were significantly associated with the intent to contact local, state, and federal government officials in search of aid solutions (Spialek et al., 2021). In particular, communication between community members and government followed a 'storytelling-to-action' process where communication amongst community members regarding disaster preparedness initiatives led residents to engage with local governments and aid agencies (Spialek et al., 2021). This is also seen in "Public information seeking, place-based risk messaging and wildfire preparedness in southern California" by Anne-Lise K. Velez, John M. Diaz, and Tamara U. Wall who, like Spialek, examine how public information seeking, risk messaging and wildfire preparedness are related in Southern California. Both articles conclude that factors of risk and social vulnerability on a local level combined with channels of communication and information access thereby increase the efficacy of information flow between community members and government as well as contribute to a proactive response network.

Strategic rebuilding of a community can be implemented using structuration theory as a way to understand organizational capacity that aids fire-affected areas (Edgeley, 2021). Such information is a crucial element in enhancing the adaptability of communities and organizations towards efficiently responding to and recuperating from the devastating impacts of wildfires. Structuration theory involves both *agency* and *structure* interacting together, with individual agency being confined to the limitations of pre-established systems (Edgeley, 2021). These

systems within structures work to create an areas meaning, establish power dynamics (Edgeley, 2021) and influence how community members engage with one another. By understanding "disaster-driven change" (Edgeley, 2021) through structuration theory, local governments and aid agencies can develop more resilient systems that respond to an areas unique needs. By formulating and implementing these ideas becomes a means of enhancing the resilience of the community as a whole, and mitigating the probability of adverse impacts in the future.

The intensity of disasters is followed by a limited window of recovery opportunity that requires both reconstruction and rehabilitation to be successful. The identification of environmental hazards, risk, and capacity for risk are connected through an anthropocentric view on disaster risk reduction or 'DRR' (Luna, p. 48). Two significant factors of DDR must be addressed. The first is inadequate funding from government institutions that hinders the delegation of responsibility for disaster risk reduction. The second is the need for a mutually beneficial relationship between individuals and communities that will ensure the success of disaster risk reduction initiatives (Lavel, Lopez-Marrero, p. 241). Often, hazards are assessed on a higher level than vulnerabilities. This is an example of how our systems of advancing disaster mitigation tactics are often reactive rather than preventative. Systemic inequalities contribute to vulnerability, and therefore directly correlate with increased risk during disaster situations as well as long-term destabilization of communities during the recovery phase. Due to the lack of international consensus on defining vulnerabilities, failures in prevention, protection, and recovery policies drastically influence the dependence on the flawed systems already in place (Villagran de Leon, p. 79).

As seen in the ongoing process of rebuilding Paradise after a devastating fire, how are communities in a post disaster state reconstructed? Looking again to the work of Dr. Edgeley, a key root of post-disaster social development is "knowledge exchange between both individuals and groups engaged in recovery" (Edgeley, 2021). This exchange is intersected with experiential learning that develops over time and leads to structured programs for wildfire adaptation (Edgeley, 2021). She writes:

> "There is value to both informal and formal knowledge exchange, but the establishment of a formalized protocol or platform for reporting, reflecting, and generalizing about local approaches to recovery could offer a fast-track route for like-kind individuals, communities or organizations to connect and share knowledge gathered during experiential learning" (Edgeley, 2021).

Four critical components to recovery are at work for Paradise's regeneration that are echoed in disaster stricken communities worldwide.

- Institutional: A dynamic relationship of policy and governance that works to ensure better post-disaster programs. This includes intervention programs for returning residents who require in-depth economic and social support from their community while reintegrating into a new socioeconomic landscape.
- Social: Seen particularly as the interface of individuals, their communities, and the society as a whole. This is the process of strengthening connections between the physical living spaces and the social fabric of community living. It is imperative to community building after a disaster that individuals are able to go beyond a living accommodation and begin to participate in a community as a way to develop their sense of place.
- Technical: This is the technical and physical aspect of restructuring communities. Because climate caused catastrophe is a continuum of interrelated events, the infrastructural development of an area must accommodate mitigation initiatives. In Paradise this looks like widening roadways and school sidewalks for emergency vehicles and applying for early warning systems. In other places

technical restructuring looks like building sea walls or reenforcing bridges against high winds. Not only does this maximize the economic value of a community, but it also connects individual livelihoods with future strategic recovery.

- The fourth critical component is the strategic use of resources and policy. The combination of economic policy and new infrastructure directly supports a multi-method mitigation effort.

  (Boano, p. 202)

Dr. Charles R. Wise in "Accountability in Collaborative Federal Programs—Multidimensional and Multilevel Performance Measures Needed: The Case of Wildland Fire Prevention" furthers the discussion on accountability networks within collaborative federal programs by highlighting the need for multidimensional measures of performance in order to ensure accountability in wildland fire prevention collaborative federal programs (Wise, 2022). He discusses the Wildland Fire Leadership Council (WFLC) established by the Departments of Agriculture and Interior in 2002 which intended to support the implementation and coordination of Federal fire management policy (Wise, 2022). As the WFLC is an intragovernmental and intergovernmental committee, its mission is to provide "strategic recommendations to ensure policy coordination and accountability and effective implementation of Federal wildland fire management policy" (Wise, 2022). However, Wise believes that difficulties in producing cohesive strategies through this committee is due to goal ambiguity between state and federal networks. This ambiguity exacerbates weaknesses in agencies like FEMA and the American Red Cross who are designed for rapid emergency response but leave staggered avenues for continued recovery.

In "Mapping fires and American Red Cross aid using demographic indicators of vulnerability", Evan Lue and Dr. John P. Wilson provide a case study of house fires in Los Angeles county

which examine the relationship between fires and American Red Cross aid. They identify demographic indicators of vulnerability such as age, race, and income to better understand the impact of fires on different communities and the support they receive from aid organizations. Their study was published just one year before the Camp Fire, and reflects similar variables of risk assessment and goal ambiguity within interagency networks, stating that “aid is supplied based on need, and need is related to capacity for recovery” (Lue & Wilson, 2017). But how is the capacity of recovery established in areas like Paradise? In their 2010 article “Measuring Capacities for Community Resilience”, researchers Kathleen Sherrieb, Fran H. Norris, and Sandro Galea examine how to measure recovery capacity through community resilience factors such as resource equity, social support and participation, and community bonds (Sherrieb et al., 2010). Due to the strong sense of community before the fire as described by Paradise residents, their social support networks and community bonds were key factors in social movements like “Rebuilding the Ridge”, “Regenerating Paradise”, “The Rebuild Paradise Foundation”, as well as the return of community markets and holiday events.

A roadblock in translating strong community bonds as a resiliency factor to the production of disaster mitigation policies, accessible aid resources, and new infrastructure is in the gaps between immediate aid and policy implementation. In “The Fiscal Impacts of Wildfires on California Municipalities” Yanjun Liao, and Carolyn Kousky discuss the financial impact of wildfire mitigation policy as negative and substantial regarding municipal policy implementation (Liao & Kousky, 2021). The study found that municipalities face increased costs for emergency response and recovery, including firefighting personnel and equipment, evacuation and sheltering of displaced residents, and cleanup and rebuilding efforts (Liao & Kousky, 2021). Municipalities

also experience reduced revenue from property taxes, as homes and businesses are destroyed or damaged by wildfires, and property values become determined by rebuilding opportunities in the future. These outcomes were seen throughout Paradise and the surrounding areas of Magalia and Concow as insurance agencies offered to purchase destroyed properties from owners for a fraction of the original cost while private real estate values increased by thousands of dollars in the months following the fire. An example given by researchers Sara Hamideh, Payel Sen, and Erica Fischer in "Wildfire impacts on education and healthcare: Paradise, California, after the Camp Fire" is the destruction of schools and healthcare facilities which led to the displacement of students, teachers, and healthcare workers. This was compounded financially with the loss of infrastructure and resources, such as medical equipment, school supplies, and textbooks, leaving families to seek alternate avenues of healthcare and schooling (Hamideh et al., 2022). The desire for Paradise to rebuild their economy and community rapidly became a priority to sustain the costs of recovery resources, property damage, and fire fighting costs which varying reports total between 12-16 billion. However, there is also an emphasis on building back the community in a way that works *with* their environment and its associated risks rather than against it. Max A. Moritz and colleagues published the article "Learning to coexist with wildfire" in which they describe a way forward with natural disasters that take an approach of coexistence that integrates policy making with social systems. WUI landscapes such as Paradise undertake the responsibility of living within an area that has a higher frequency of wildfires and therefore must develop strategies for education as well as taking a place-based approach, as written by Moritz, which will be beneficial in shaping fire management practices and adopts a more nuanced approach to living in a high-risk area (Moritz et al., 2014). The introduction of area-specific fire management practices integrated into policy is not just limited to wildfire in the United States,

but has seen success in the South African savanna, discussed by Brian van Wilgen in “The evolution of fire management practices in savanna protected areas in South Africa”. His article explores how South African national parks have integrated adaptive fire management practices over time through education and policy which allows places like Kruger National Park to exist in tandem with dynamic ecological zones (Van Wilgen, 2009). Challenges faced by communities in a post-catastrophe state require unique and complex strategies for recovery that are area-specific and integrated with a broad community vision for a safe future. Therefore it is important to implement mitigation strategies that are equitable, sustainable, and structured around community safety moving forward. This includes identifying how community members shape their socioeconomic landscapes, their relationship to government and resources, as well as how they interact with their environment before, during, and after catastrophe.

Sense of Place and Belonging

Sense of belonging and placemaking is multifaceted and can be influenced by a wide range of factors including personal background, cultural norms, and the socio-political context of a community. Community integration is a layered and nuanced experience, as well as an indicator of social vulnerability and resiliency. Social vulnerability is a multi-dimensional concept that is dependent on individual and community-level socioeconomic factors as well as cultural factors like age, ability, social connections, and local knowledge (Hamideh et al., 2022). These factors are first experienced by the individual and are relative to how they experience their place in the community. Next, belonging is determined by how the community receives the individual through the lens of their socioeconomic status or social networks. Those who have been thrust out of their communities due to natural disasters or other environmental catastrophes are in a

unique position to participate in community building and reconstruct a sense of belonging once it has been destabilized. Often this includes a restructuring of the physical location as well as adapting to a new social geography. The articles "Explaining Differential Vulnerability to Climate Change" by Kimberley Thomas and "Social Vulnerability and Wildfire in the Wildland Urban Interface" by Michael Coughlan discuss residents restructuring their sense of belonging individually and collectively by identifying factors of social vulnerability in the context of community rebuilding. They both review the vulnerability of populations to the impacts of climate change and highlight how locality shapes vulnerability to climate disasters. Following catastrophe, the initial re-establishing of belonging and community integration begins with the accrual of local knowledge that is critical not just to the strength of social bonds over time, but throughout the stress of natural disasters. Factors of resiliency like community ties, social capital, and adaptive capacity are in part attributed to the social governance of participation that may anchor the hope of recovery. In particular, establishing belonging redistributes risk throughout the community based on the strength of a collective identity and togetherness.

Without establishing an internal network of these relationships, the independent risk of harm during disasters may increase thereby reducing the likelihood of recovery after. An example would be the implementation of disaster management committees, which are groups that provide education, support, and aid throughout disasters. Though they aren't without critique, as identifying stratified community relationships such as those from resident-to-resident, or resident-to-organization are important for acknowledging systems of community power and hierarchy. This is particularly true when evaluating how someone identifies themselves within their community- or how their community identifies with them. Siobhan McDonnell discusses

community based efforts of resiliency through the case study of Vanuatu in Oceania which is subjected to rising tides as well as violent cyclones. Although the natural disaster itself is of a different quality, similarities exist from Paradise to Vanuatu regarding recovery and resiliency. Paradise has organizations like Rebuilding Paradise, and Regenerating Paradise, and the Vanuatu Red Cross established community disaster committees and Climate Change committees under the program "Together, Becoming Resilient" (McDonnell, 2020). McDonnell identifies the word resilience as etymologically meaning to bounce back, followed by the International Panel on Climate Change (IPCC) definition of resilience in the context of climate change and disaster risk as:

> The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions. (IPCC 2012)

Viewing resiliency in this format mechanizes it, and is often introduced through a series of aid programs and organizations that risk misidentifying the hierarchical structures of local power networks, thereby rendering any kind of resiliency policy ineffective.

Resiliency is complex, with layers including community structure, identity, relationship to place, and access to recovery resources. Using ready-made aid organizations as a blanket platform for recovery misidentifies what truly cultivates long term resiliency, which is a combination of local identity, individual identity, and community specific goals. Policy makers must then include an understanding of belonging, of local power, and placemaking to produce effective disaster mitigation legislation.

In Paradise, the Camp Fire significantly affected community networks, and factors such as aid dispersal affected a timely recovery affecting residents ability to find comfort in familiar communities and routines. Paradise is uniquely situated with physical and social vulnerabilities which exacerbate the profound effect the Camp Fire had upon the community (Hamideh et al., 2022). Not only is the area situated atop a ridgeline with steep canyons on both sides, their neighborhoods are sporadic with varying wealth distribution and many choosing to live 'off-grid'. These factors contribute to the interconnected social and environmental loss during natural disasters which raises questions about infrastructural efficiency and social recovery capacity, both of which are dependent on each other to strengthen community networks. Paradise's ridgeline and narrow roads contribute to physical vulnerability to disaster as well as include a population that is made up of retirees, families, low-income households, and long term off-grid residents. The loss threshold of a community is often referred to as the anticipated structural loss in the event of a catastrophe. Paradise's topography and social geography contributes to an amalgamation of risk factors that increased the loss threshold of privacy, stability, and made the community as a whole more vulnerable to health issues or future disasters (Hamideh et al., 2022).

Researcher Adrienne R. Brown furthers this belief that the characterization of rebuilding does not manifest through the rebuilding of structures themselves but rather the reemergence of shared symbols and meanings that give meaning to locality (Brown, 2022). I find that there can be no separation of infrastructural, social, and economic damage when *physical loss* becomes *identity loss*, and collective socio-spatial memories of a community become the necessary platform for rebuilding. The Camp Fire initiated both tangible and intangible destruction of Paradise and the

surrounding areas that not only disrupted local memory but was a violent shift in physical reality that inhibited place making, challenging the individual and community built identities of Paradisians (Brown, 2022). Understanding how the individual and communal definitions of locality change after catastrophe may be integral to resiliency and recovery building. The symbolic role of man-made and environmental landmarks to identity are lost in tragedies such as the Camp Fire which can cause a disruptive collective trauma response (Brown, 2022). The total destruction of Paradise caused extreme social loss by eliminating key community gathering spaces, city streets, recreation areas, and original neighborhoods that were key attributes of individual memory and community identity. Rapid rebuilding of the physical space as a way to integrate a detached community to a new space contradicts the desire to reestablish a community socially and emotionally as it once was. Adapting a community to environmental hazards during the rebuilding phase includes fresh infrastructure, but without social integration of new residents and existing residents, a divisive question emerges: which version of the community are you rebuilding for?

The disorientation caused by mass physical and social loss in Paradise after the Camp Fire also relates to larger themes of migration as a means of establishing belonging, sense of place, and contributing to resilience. Both migration out of Paradise and into Paradise are related to the devastation by attracting groups of opportunists while simultaneously engaging with trauma responses from survivors. The coexistence of a surviving resident alongside a drastically altered landscape causes a dissonance in placemaking and forces the individual to adapt their ideas of locality or remove themselves from the site of the catastrophe (Brown, 2022). Trauma becomes embedded in the landscape. The pain of navigating these physical and emotional spaces post

devastation is a factor that drives migration. However, in the case of the Camp Fire, migration away from the area was more often discussed by former residents in the context of preserving mental wellness and avoiding financial distress due to rising property costs. Although Paradise is unique due to its landscape and the severity of its disaster, the resulting migration can be classified as both long term environmental migration as well as rapid displacement due to violent natural catastrophes. The overlap of living in a WUI that is considered an at-risk community for wildfire is only being exacerbated by climate change and becomes a driving factor of consistent migration as well as the Camp Fire itself acting as a catalyst for rapid migration out of the area.

A challenge faced by the remaining Paradise community was in those who moved into the area, taking advantage of available foundations and open plots of land. Debates over gentrification and disaster tourism emerged as new residents began to interact with established residents attempting to reestablish their relationship to Paradise. Disaster tourism, also known as *thanatourism*, is associated with dark tourism, a phenomenon where individuals are attracted to the horror of disaster stricken areas (Tucker et al., 2017). Paradise became a destination for such individuals who capitalized on trauma zones, creating a new genre of disaster economy. This disaster economy, where catastrophe memorials and exhibits are monetized, revealed itself in Paradise through several popular documentaries and television shows featuring survivors and primary source media such as cellphone videos and photographs of the evacuation process (Tucker et al., 2017). This made a narrative of the tragedy as well as produced media content from survivors asked to revisit potentially painful and traumatic memories and stories from that day. Many interviewees across films like *Fire in Paradise* and *The Camp Fire* are seen getting emotional, often crying as they recount their experiences.

A result of the influx of people into the area stimulated the local economy, putting pressure on local government and city planners to accommodate potential new residents. This led to what some residents referred to as the gentrification of Paradise, which Tucker describes as a "tourism of transition", where visitors are attracted to the revitalization of an area (Tucker et al., 2017). Linus Andersson and Ebba Sundin further investigate the behavior of individuals at accident sites as they are occuring, including those who observe (mobile bystanders) and take personal videos and photographs without offering assistance (Andersson & Sundin, 2021). The community of Paradise was anchored through shared hardship. The Camp Fire became the benchmark event deciding who became a valid member of the community. Individuals who entered Paradise by means of disaster tourism or moving into newly available foundations are attempting to enculturate themselves by attaching to a physical space, without understanding that community building after a catastrophe requires experiencing the catastrophe itself to bind residents with one another.

Imagined Futures: Adaptation, displacement and the emerging environmental refugee

The small but rapidly growing literature on displacement and migration caused by environmental catastrophe calls for a theoretical frame in which to integrate specific case studies, like Paradise. As scholars continue research that identifies key factors of migration and displacement, it is critical to include social and environmental vulnerability factors, resiliency capacity, and development of community classifications that encompass immediate and long term needs. Using environmental disasters such as wildfires as case studies for the development of recovery approaches may lead to a greater understanding of community adaptation. Although I previously

explored this on a local level, it is important to broaden these concepts as they apply to displacement and migration. A controversial label discussed by both academics, economists, and politicians is "environmental refugee", credited to UNEP researcher Essam El-Hinnawi who wrote:

> those people who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life. By 'environmental disruption' in this definition it means any physical, chemical, and/or biological changes in the ecosystem (or resource base) that render it, temporarily or permanently, unsuitable to support human life. (El-Hinnawi, 1985, p. 4)

His description is critiqued for its broadness and inability to distinguish other drivers of migration and displacement, as well as the risk of redefining the legal parameters of refugee status. However, the classification of individuals forced to leave their regions due to sudden, permanent damage, compared to those that leave their regions due to prolonged anthropogenic alterations, and those who leave due to compounding factors can be categorized based on agency of the individual as well as levels of established community resilience factors (Bates, 2002). Agency of the individual in this way refers not to the *intentions* people have in doing things but to their *capability* of doing things in the first place, which is why agency implies power (Palm, 1986). Bates introduces this classification rhetoric in three parts: disasters, expropriations, and deterioration. The first describes environmental refugees who originate in acute events that are not designed to produce migration, such as natural disasters (Bates, 2002). Second, expropriation of individuals or communities results from "acute anthropogenic disruptions in the environment that intentionally dislocate target populations" (Bates, 2002). Third, deterioration refugees migrate as a result of "gradual, anthropogenic changes in their environments that were not intended to produce migrants" (Bates, 2002). An example of these classifications can be seen in longitudinal studies done on reported reasons for migration determined by sudden or prolonged

environmental factors. Authors Pratikshya Bohra-Mishraa, Michael Oppenheimera, and Solomon M. Hsiang for example published a 15 year study of 7,185 households in Indonesia on migration responses to climatic variation. Their study concluded that sudden onset disasters have a much smaller impact on permanent migration relative to the strongly nonlinear effect of temperature or precipitation (Bohra-Mishra et al., 2014). Through my work in Paradise, I see a relationship between the emerging classifications of environmental refugees and the risk-recovery-resiliency discourse. As a way to establish potential policies for environmental migration, Bates attempts to clarify Essam El-Hinnawi's work through a simplistic model of agency regarding migration status. Bates's model separates three sections into levels of agency and the corresponding classifications of Environmental Refugee, Environmental Emigrant, and Migrant as a way to determine different ways of interpreting drivers of migration and what the subsequent titles would be.

INVOLUNTARY	COMPELLED	VOLUNTARY
ENVIRONMENTAL REFUGEE	ENVIRONMENTAL EMIGRANT	MIGRANT

FIGURE 1. Continuum of control over migration decisions in situations of environmental change.

(Bates, 2002)

When viewed with respect to the social vulnerability factors discussed in the above section *Sense of Place and Belonging,* Bates's simplified model is interrelated with stratified community support systems. I posit that the different classifications of migration listed by Bates indicate that negative drivers of migration such as poor economic viability and lack of social stability can be mitigated before a disaster event through community resilience factors and social resilience networks. These factors include community belonging, shared resources, and economic opportunity. According to Bates, environmental migrants who are forced to migrate may

discover that their social networks are strengthened and improved when faced with community displacement. On the other hand, involuntary migration caused by sudden and permanent inhabitation of an area due to environmental damage can only be addressed through recovery and rebuilding stages after the event, and the success of these stages depends on the prior stability of social resiliency factors.

Proposed models of environmental refugees and disaster migration are critiqued by James Morrisey, who believes that the refugee label and vulnerability narrative indicates a paradoxical representation of human-environment relationship that places responsibility of individual and community welfare on environmental stability rather than structural stability (Morrissey, 2012). This complicates the evolution of environmental migrant to environmental refugee, as Morrissey suggests, requires a more nuanced framework that explores sudden versus prolonged migration, grassroots support networks versus government recognition, and urges critics to explore environmental and non-environmental variables that shape mobility (Morrissey, 2012). Norman Myers is one of the most prominent writers about environmental refugees, believing that nuance aside, the growing phenomenon of displaced persons due to environmental degradation (both sudden and prolonged) requires action from both scholars and policy makers. Both Myers and Bates identify migration flows containing anticipatory refugees, those who recognize that their local situation will eventually deteriorate and have the ability to relocate before they are forced to do so (Bates, 2002). Myers wrote in 2001 about additional push factors that are typically associated with migration such as population pressures, malnutrition, landlessness, unemployment, over-rapid urbanization, pandemic diseases and government shortcomings, together with ethnic strife and conventional conflicts (Myers, 2002). Myers believes that it is

often difficult to differentiate between refugees that are driven by environmental factors and those that are impelled by economic problems. In certain instances however, it is due to environmental plight as much as any other factor that determines push factors of migration (Myers, 2002).

Etienne Piguet critiques Myers as an alarmist, illustrating the dangers of framing migration as not only a consequence of environmental degradation, but as a catastrophe in itself (Piguet, 2013). His work emphasizes the human-environment relationship established by renowned geographer Ellsworth Huntington who discussed human migratory patterns as being influenced by climate change (Huntington, 1913). A century after Huntington, Piguet's work indicates a relationship between displaced persons and the environment by highlighting the value of introducing climate and climate disasters to migration studies. Climate disasters intersect with the social processes of migration such as power relations, class, economic inequalities, and colonialism by acting as a push factor that asserts itself at various scales (Piguet, 2013). Piguet also discusses the complexity of climate migration studies and "environmental refugees" by addressing the lack of official terminology for climate and environmental refugees, as well as the necessity for integrating climate-caused disasters with migration studies (Piguet, 2013). From the perspective of climate and refugee alarmists, migration is thus seen as a proof of the necessity to act against climate change (Piguet, 2013). Furthermore, Piguet cites Graeme Hugo's 2008 article *Migration, development and environment*, "there needs to be a quantum improvement in the knowledge base on the interrelationships between environment and migration. This means better conceptualization and measurement as well as more detailed cross-disciplinary research" (Hugo, 2008). Piquet identifies key themes across Hugo's work and Meyers, writing that research

insufficiencies and contestation across disciplines is the cause of longstanding debates regarding environmental migrant and refugee discourse. It is only through continued cross disciplinary research of migration, displacement, and the environment that conclusions can be made about the future of environmental-human relationships and the disasters that entangle them. The ongoing issue of natural disasters as extreme as those faced by Paradise residents provide an intimate view of how sudden and extreme environmental damage can alter the social geography of a community, and influence both in-bound and out-bound migration. Challenges faced by both policy makers and researchers are more nuanced than the simple semantics we give to the term 'refugee', and require long term research that may only be available as our relationship to extreme weather events becomes more established over time.

Methodology

Qualitative Methods

The methodology applied in my qualitative research was accomplished through narrative interviews that took place over June, July, and August of 2022. During this time, I interviewed current and former residents in the Paradise area who either directly experienced the Camp Fire or relocated to the area afterwards. The occupations of my local participants were diverse, including local hospital employees, educators, real estate agents, developers, local government employees, hazard mitigation educators, documentary filmmakers, and church leaders. These individuals then extended into the more intimate categories of evacuee, aid-worker, or both. My qualitative approach required a multidimensional framework that emphasized the ethical consideration of my interviewees privacy with the assurance of my role as a researcher to be

without ill intent. I chose to conduct open-ended, semi-structured interviews that took place in person and over Zoom spanning 45 minutes to 2 hours in which the interviewees shared with me their stories surrounding the fire event and life thereafter. I received verbal and written consent to record the interviews with an external recording device however multiple informal interviews took place as I encountered residents in public spaces such as parks and coffee shops. The purpose of collecting personal narratives from a small but diverse group of Paradise residents and Camp Fire survivors was to better understand the lived experiences of community members and integrate their unique perspectives into my research. The interviews began with a general overview of the participants' experiences during and after the Camp Fire followed by a three-part structure to cover different topics. The first section focused on community and social relationships, followed by personal experiences, and concluded with personal economic conditions. The questions I used to guide the interview included “What initiatives are being pursued to aid returning residents?” and “What resources were available to evacuees right after the fire and are those resources still available?” I also included questions about community dynamics, such as “What kind of social changes have you seen in the last four years?” to encourage my interviewees to reflect on the social landscape of the Butte County areas. Then, I asked questions related to their socioeconomic conditions, such as “How did the fire affect your relationship with the community?” and “If you relocated due to the fire, where did you relocate to and why?” As a result of conducting narrative interviews that incorporated semi-structured questions, participants often provided supplementary information regarding their experiences and opinions that were not initially outlined in the interview protocol. However, the significance of this information to the participants' experiences warranted its inclusion in the data set.

In addition to collecting interviews I also took field notes during each day in Paradise that I spent learning about the community, going to summer evening markets, and lingering in parks and cafes. My field notes detailed my observations of social interactions and features of Paradise's newly constructed environments. I uploaded the data gathered from my interviews and field notes in the form of audio recordings. I used Descript, a transcription software, for the transcription process, and Atlas.ti for the qualitative coding process to find any consistencies in language or phrasing. Initially, I created codes based on my research questions that focused on patterns of social and economic experiences, the quality of aid given, and experiences of displacement. However, during the coding process, I identified new themes that emerged, such as the dissatisfaction with the decreasing financial support and the long-term ineffectiveness of FEMA. Additionally, I noticed the mention of keywords such as "Rebuilding" and "Regenerating," which I included in my analysis due to their prevalence.

Through participant observation I relived the experiences of my interviewees through the stories they were willing to share throughout the interview process. I was brought along into coffee shops, homes, trailers, churches, and construction yards, listening as each person carried their words with the weight of new houses on old foundations and wider roads. Each interviewee had an emotional connection to the physical space that they had lost, and in recording their experiences in each interview I noticed the value the people of Paradise placed on restoring the connection the community has with the environment. The interview process along with my prior knowledge of the surviving landscape invoked a sense of liminality expressed by my interviewees who projected their memories onto a community that was four years removed and still not repaired. Conversations that evolved away from my original questions gifted me enough

information to retrace the steps of some of my interviewees. The descriptions of their experiences with the fire were accompanied by addresses and landmarks that they encouraged me to visit myself. One individual gave me the address for a communal water spigot that community members queued up for when the groundwater became contaminated due to neglected water pipes and high ground temperatures during the fire. Another brought me into the trailer she has been living in with her children, dogs, and husband as they build a new home on a lot where another resident's house had once stood. A woman was able to describe the exact route she had taken to evacuate Paradise when the main road, Skyway, had become too dangerous to travel down. I was able to drive her route from Paradise to Chico daily, each time recalling details from our conversation about how narrow the roads seemed in the smoke, how confusing it was without landmarks or visible road signs. Understanding the steps taken by my interviewees during and after the fire event presented me with a comprehensive mental map of how the fire event unfolded for the community in the weeks, months, and years following. The significance of housing, of clean water and reliable resources, of safe roadways all were made clear in what my interviewees chose to highlight as we spoke.

As June 2022 was my first physical trip to Paradise, I first contacted local volunteer groups and church organizations as well as joined online groups dedicated to Camp Fire recovery support. Most importantly, I chose to walk through the city itself. I prioritized becoming familiar with the spatial layout of Paradise, and routinely explored the area by car and on foot. Being physically present in the community by visiting local businesses, coffee shops, and farmers markets became valuable to my qualitative work as I was able to integrate myself into the social landscape of Paradise. In the context of ethnographic fieldwork, it is crucial to prioritize building community

rapport while maintaining strict ethical considerations. The ethics of this project started with basic principles of "do no harm" and obtaining written and/or verbal consent, followed by an effort to create valuable, genuine trust between myself and Paradise residents willing to express their hardships and vulnerabilities. Conducting successful ethnographic research is often at the mercy of the communities you are choosing to integrate with; this difficulty was made apparent in those who I approached for interviews that turned me down immediately, presumably due to lack of trust, lack of interest, or the oversaturation of journalists, researchers, and filmmakers in the area. Others had an optimistic perspective, believing that the more coverage and attention their experiences got, the more help they would continue to receive. The dynamic of those with healthy skepticism for researchers and media coverage and those who are pushing to share their stories reveals a social paradigm shift in what disaster recovery looks like in small communities. Those who were reluctant to share their stories also commented on their desire to move on from the devastation and prioritize rehabilitating the economy and new residents, while those who were eager to share their stories were sentimental for what the community used to be, and were vocal about the need to support displaced former residents.

My intentions as a researcher were addressed often by residents during the interview process through various ways. Without prompting, some of my interviewees brought up the legacy of their trauma existing in Netflix documentaries and TV shows as well as students creating projects wanting to see “the city that burned down.” Due to my project being community focused with the goal of highlighting the struggles and revival of their community, I felt welcomed into their spaces rather than rejected. When I clarified that there was nothing to profit from their participation, my interviewees visibly relaxed and felt more comfortable expressing vulnerable

thoughts and experiences to me. Integrating myself into a survivor's space meant that I was present for the recounting of some individuals' darkest days, to which I felt compelled to sit with them in grief and patience. I felt called to this subject based on my own desire to explore and support those affected by natural disasters and catastrophe. Ethically, the drive to help may indicate a parasocial relationship to disaster stricken areas, and contribute to a narrative of championing the resurrection of communities from a position of power. I valued acting with the intention of solidarity as the antithesis of saviorism in the context of my interview process.

Quantitative Methods

The purpose of this quantitative report is to conduct a statistical analysis of the relationships between household income, poverty levels, reported disability, and population changes from two years before the Camp Fire to two years after (2016-2020). Each variable was selected with the intention of evaluating factors of quality of life for Paradise residents. The U.S. Census Bureau's American Community Survey (ACS) provided the raw data, which I used to identify shifts in the socioeconomic landscape of Paradise before and after the Camp Fire. I also included data from Century 21 of Paradise who collects extensive monthly and annual data on Paradise's housing statistics. The American Community Survey (ACS) uses a series of monthly samples to produce annually updated estimates for the same small areas (U.S. Census Bureau, *2014 Design and Methodology Report*). The sample size of each data set was based on the population of Paradise and those who responded to the ACS survey. The data taken from Century 21 for my research was the average selling price for homes in the Paradise area for the years 2016-2020 as well as the monthly average selling price from October 2018 to January 2019. To establish baseline trends for the general quality of life, I began my analysis two years prior to the Camp Fire.

Additionally, I extended my analysis to two years post-catastrophe to identify any new relationships between each factor. Based on the information gathered from my qualitative data, I developed a hypothesis that the patterns measured in 2016 and 2017 would change in 2019, as the fire occurred late in 2018.

Discussions with participants about the quality of life before and after the fire, as well as their description of inconsistent economic conditions, led me to assume that there would be a significant relationship between all factors. Upon conducting my preliminary assessment of the data, I discovered a considerable decrease in reported disabilities, poverty rates, and population, alongside an increase in household income and the sale price of homes in the region. These results align with the statements made by members of the community that individuals who relocated or stayed in Paradise after the fire had a distinct socioeconomic status compared to the original residents.

Due to missing data, some U.S Census data sets included the margin of error for each reported variable, which can be attributed to non-responses during the survey process. The data sets were broken down first by population and then separated into demographic data such as age, sex, gender, and then specific qualities of the intended participant group. For example, in the data set reviewing reported disabilities, there are variables such as disability type by age and listed type of disability (vision, cognitive, ambulatory, independent living, etc.). The data were then separated into the total population, the total population of those with a disability, and the percentage of the total population living with a disability. Census data sets were categorized by population, average household income, average households reported to be below the poverty

line, average number of reported individuals with disabilities per household, and average housing costs listed across 2016, 2017, 2018, and 2019. The Camp Fire happened in November 2018, meaning that the majority of data collected from 2016 to 2020 was used to establish the leading conditions prior to the fire in 2018 and compare such conditions to data from 2019 to evaluate potential socioeconomic shifts.

This data is exploratory and descriptive due to my goals of evaluating factors of quality of life as determined by Sherrieb, Norris, and Galea in "Measuring Capacities for Community Resilience" and influenced by qualitative data reported by my interview participants. Stratified raw data for the area includes population ranging from 17,560 to 26,543, ages ranging 0 to > 75, race, and sex. For the purpose of my research, I included the mean variable for each category and I used SPSS 28 to estimate the descriptive statistics. I evaluated each variable (income, poverty, population, disability reporting, and housing cost) against the established time frame and then extrapolated the resulting data to show significant changes in quality of life over time. However, the variable for mean housing data is established based on property value in dollar amounts, meaning that instead of a comparative analysis for that variable I created an individual line graph and then evaluated the results separately to compare annual trends (see appendix for line graphs). Four of my variables: Population, Reported Disabilities, Household Poverty Rates, and Average Income are evaluated based on population, giving them a consistent rate of comparison.

Analysis

Locality

My time in Paradise deepened my understanding of community resilience and recovery as I learned the personal narratives of current and former residents. Each layer of Paradise's social fabric was revealed during my weeks spent in town navigating the complexities of rebuilding a town from scratch. Paradise is in a space of physical restoration with schools, parks, churches, hospitals, and shopping centers being rebuilt. Yet, it is the buildings left condemned and overgrown concrete foundations that divide a community by those who *notice*, versus those who *remember*.

When I was able to begin the interview process, what emerged most clearly was the value of locality. The traditional definition of locality identifies a place, a phenomenon of belonging through experience, a prescribed identity, and a place within. I am using this term as a mode of description for the power of positionality, self identifying as a "local", and what that entails for community resilience after catastrophe. The phenomenon of locality affects social recovery in communities post-catastrophe, as demographic changes may cause an increase in in-groups and out-groups.

It is important to recognize how these layers of community building contribute to embodiment of displacement. Stratification of locality and the creation of new spaces can be difficult to navigate due to nuance and social perceptions of belonging. This phenomenon can be described through the theoretical lens of embodied uncertainty. The concept of embodied uncertainty incorporates

both the conscious and subconscious lack of clarity (Sword-Daniels et al., 2018) It is felt externally through social ostracization but also internalized due to past experiences, identity, institutional structures, and social norms (Sword-Daniels et al., 2018). These internalized characteristics influence layers of belonging. These layers are multidimensional and can be experienced and interpreted both individually and collectively (Sword-Daniels et al., 2018). Since embodiment characteristics are carried within the individual and the collective, their actions are created via social identity and lived experiences through factors of education, class, age, ethnicity, gender, and sexuality (Sword-Daniels et al., 2018). As locality develops through embodiment, those characteristics influence risk perception and social vulnerabilities, thereby affecting community resiliency as a whole.

It is the individual experiences of losing a sense of locality that make up collective social displacement. I heard similar themes of physical loss being followed by social loss. The decimation of a community doesn't stop once the buildings have burned; people carry with them the intimate liminality of losing personal spatial identity. One particular interview was with a woman who couldn't stand to be near any kind of fire even years later. What follows is an excerpt of my field notes of our time together.

> 'S' was the founder and principal of a school for special needs children and was already at work when she received a phone call from her friends to get back to her house to rescue her dog who wouldn't come to them as they evacuated. She was turned around halfway up the mountain due to fiery debris engulfing the roads. She escaped through the burning back roads into Chico, where some residents were standing at the freeway exit with signs saying "You made it!". She has relocated permanently now and gives credit to a tight knit group of friends who supported her personal recovery. She stated that she truly lost everything and only

> just this year has fully restored important documents and given copies to her children living in central California.

The urgency and sudden disruption of her life and routine the morning of the fire was the beginning of dismantling a sense of locality and personal identity. The inability to access her home and rescue her dog intensifies the emotional toll of the situation, further destabilizing her sense of self. The moment she leaves Paradise and enters Chico as an evacuee marks a significant turning point for her, as she becomes detached from her former identity and begins to navigate a new reality post-evacuation. Stating that she "truly lost everything" indicates a profound sense of loss, not only of material possessions but also of her previous identity and connection to place. The process of restoring important documents and giving copies to her children implies an effort to reconnect with her past and reconstruct her personal history, further contributing to her evolving identity. The disruptions, physical barriers, and emotional toll she faces lead to a shift in her sense of self and ultimately contribute to the emergence of a new sense of locality as shaped by her experiences.

The theory of embodied uncertainty suggests that traumatic events can lead to a profound sense of uncertainty that becomes embodied in the individual's physical and emotional responses. The following section of my field notes illustrates this theory through my interviewee’s symptoms of post-traumatic stress disorder (PTSD), hypersensitivity to sensory triggers, and hypervigilance.

> ‘S’ went through trauma therapy almost immediately and encourages others to talk about their own stories. Her advocacy for mental health is upset by some symptoms of PTSD, in which she is unable to physically be near fires that smell

> and sound like wildfires. Her new home had a wood burning stove that she had immediately replaced due to flashbacks and immense fears. She says that she is now plagued with hypervigilance- constantly evaluating her surroundings for escape routes and potentially hazardous weather conditions. When invited on a camping trip, she describes a moment where her body froze at the smell of fire smoke and the smell of burning wood. During her evacuation she describes being stuck in traffic, with both sides of the road going down the mountain. She watched people flee from vehicles that caught fire, jumping into the backseats of other cars to avoid the flames. She describes gripping the steering wheel and lifting her feet from the floorboards due to the heat and she could hear crackling trees through her closed windows. She tried calling her children four times, but realized all of the cell towers had been burned down, leaving her and others unable to call their friends and family- or for help. When she was finally able to return to where her house once stood, she and others were given hazmat suits and masks to search the rubble for belongings. She was instructed to avoid any kind of white dust on the ground and when she asked why, she was told it was asbestos. All of her neighborhood was built before asbestos regulations were set in place, meaning that as buildings burned, the firesmoke contained the toxic chemical. The brick wall at the front of her house was still partially standing along with her fireplace mantle. In the debris, only one object she found was intact- a family member's Vietnam War combat helmet, which she later had encased in glass for preservation and given to her son.

Her advocacy for mental health and encouragement for others to share their stories demonstrates an awareness of the importance of open dialogue and support in dealing with trauma. However, her story highlights the challenges she faces due to symptoms of PTSD. She is unable to physically be near fires indicating how her embodied uncertainty manifests in her avoidance of certain sensory triggers. Her description of hypervigilance, constantly evaluating her surroundings for escape routes and potentially hazardous conditions, further illustrates the embodied uncertainty. This hyper-awareness is a response to the trauma she experienced and reflects her ongoing sense of vulnerability and uncertainty. Lastly, the intact Vietnam War combat helmet found amidst the rubble, which she later preserved, symbolizes the preservation of personal history and identity

amid loss and destruction. It signifies the importance of memory and the connection to the past, even in the face of uncertainty and upheaval.

> She felt supported by the community when it came to getting back on her feet financially, but has frustrations with the fire victims trust fund set by PG&E. Firstly, she prefers the term "survivor", and second, the grant money she feels is not nearly sufficient enough to help her community rebuild. She goes on to say that climate change is a large part in feeling at risk for a fire such as this repeating itself. "It's going to get hotter, it's going to get worse," she says. Her story is unique and also similar, she wants it to be discussed as much as possible so people don't forget, and can continue to focus on readiness for when, not if, this happens again.

Locality is highlighted through the support she receives from the community in her journey of recovery, as local context and community dynamics are important factors in providing support and fostering resilience in times of adversity. Her choice of being called a survivor indicates a conscious effort to define her identity in a way that acknowledges her strength and resilience in overcoming trauma. By embracing the term, she is asserting her agency and shaping her own narrative, which is an important aspect of identity building. Her perspective also illustrates a sense of shared responsibility amongst the community, encouraging a proactive approach to preparedness for future events. Overall, her story illustrates the ways in which individual development and community building is interrelated with survival, locality, and layers of belonging in the wake of disaster.

Resource Access

A second theme was the significance of resource access immediately following the disaster event, and how ease of availability dissipates in the years following. Resources such as insurance

aid, health care, housing, financial assistance, basic necessities (food, clothing, toiletries) were reported anecdotally by interviewees to dwindle over a six month to one year mark. Access to recovery resources post-disaster is limited by gaps in technological literacy that aren't addressed during information releases as well as inconsistent communication by aid officials. While residents were able to receive guidance immediately following the event, many were left behind in the fallout of overwhelming phone calls, paperwork, and online accounts. This was explained to me in interviews through residents discussing practical barriers such as the lack of cell phones and cell service, lack of available transportation, and lack of accessible computers to file insurance claims or research local shelters. The phrase "Lack of-" appeared frequently in my note taking, suggesting that resources and education initiatives available to Paradise residents prior to the fire were already minimal, needing extensive reinforcement in the aftermath to educate and support residents through future fire events. Following difficulties with resource access came frustrations with local government who some residents felt were incapable of understanding the extent of the damage done to residents who were already living at or below the poverty line before the fire and were struggling to navigate recovery from their positions. One resident who was present for town council recovery meetings spoke of his frustrations:

> "I asked mayor Jody Jones, I caught her in the hallway after one of the town council meetings. And I, I asked her, I was like, you know, we're talking about all of the, the cleanup and when people can start rebuilding, there is like 30 or 40% of the population who were under the poverty line who never even had insurance, who, you know, are just totally falling through the cracks. What are we, what are you doing about housing and she looked at me kind of like taken aback and she said, 'That's not my responsibility'. I mean, just absolutely mind boggling." [Resident 6/14/2022]

Conflict arose when residents and city developers began discussions of rebuilding residential properties alongside commercial buildings for economic growth. When interviewing individuals who worked for the Parks Department and those involved in rebuilding initiatives, I found a dissonance between their perspectives and the experiences of residents who could not afford to return to their homes. One representative stated during an interview:

> [Interview with K.S. 6/17/2022]
>
> K.S: "Um, there's a lot of young families that are moving back to the Ridge. I think pre-fire, there was, you know, Paradise was kind of a, you know, I mean, it was a bedroom community essentially for Chico. And like I said earlier, there's a little cheaper housing up here. A lot of older folks chose to live here, essentially retire here, but you know, post fire, there's a lot that are returning, but I think not in the same numbers, just because there's still such a lack of housing. So a lot of younger families are choosing to come back here and rebuild."

I was fortunate to interview a woman who works in the economic development sector for Paradise. She was able to describe to me the current difficulties in policy coordination regarding residential construction and community displacement in the aftermath of the fire.

> [Interview with C.C. on 6/8/2022]
>
> C.C: "…So for example, you were building a home and you said, well, I wanna live on my property until the home is built. You could do that as long as you had an active building permit. And that always has been the case, and most cities have rules like that. When the fire happened, we immediately saw that there was going to be an issue with housing…There was nowhere for anyone to go. And we suddenly had, you know, 50,000 residents…Paradise plus some in Magalia that had nowhere to go. And so we didn't know what to do. One of the things that our council did was say, okay, we're gonna have a temporary ordinance that will allow residents to stay on their property in an RV or non-permanent living solution, and

> for a certain time, they don't have to have anything. They didn't have to have any hookups, any power, anything like that. Wow. They could just kinda be on the property after that. I think it was a year. Then you could still stay on the property, but at that point you had to get a temporary use permit. And then you would have to show that you were connected to power, to water, that you had somewhere for your waste water to go, which most people hooked up to their septic system. We understand this isn't what you wanna do, but you have to, there's really no other option. So we did that with the idea still that it was gonna be temporary. The idea was for two years. So the first year we called it kind of dry camping. The second year was with hookups and then it would end. At the end of two years, that was kind of when the pandemic started and suddenly we realized, wow, you know, people really aren't able to move into a permanent solution this quickly. And so we extended that. We actually ended up extending it several times. So now that people are able to live in their RVs with that permit, they do have to have that permit and have hookups until April of 2023. So at that time, that will end and it will revert to our previous ordinance, which says you have to have an active building permit. So, um, as long as you're building, you can still live on your property, but we do know that there are people that aren't able to rebuild right now or potentially ever. Um, and they're kind of just trying to wait it out. Many are waiting on their PG&E settlement for more funds. But that [2023], that is going to be the cutoff that they have to find a permanent solution because it is just not sustainable to live in a travel trailer permanently. They're not safe, they're not fire code…"

There is a concentrated effort to rebuild residential properties, schools, businesses, parks, and roadways to encourage individuals and families to move in. According to one resident, Paradise was home to generational properties handed down to family members, as well as many living in retirement communities and mobile home parks. However, residents reported during interviews that some feel pushed away by city officials who prioritize bringing in wealthier, new residents who can afford the rebuilding costs and influence the economy rather than support Paradise's established residents facing total loss.

[Interview with A.M. on 6/16/2022]

A.M: "...I would go to the town council meetings and I would hear a very frustrated and, uh, heartbroken community get their three minutes and vent to a town council that had zero capacity to receive a community. They're more or less elected ceremoniously, you know, there to put up stop signs and not deal with the 'world's most costly disaster', which it was as you know, for 2018."

A.M: "...and, and then I knew also that there was a portion of the population that did not have the privilege or luxury to even get to the meeting to have their voice heard. Even if it was just three minutes. So seeing that I knew that we needed to start sharing our stories with each other and that this separation between the community and this illusion of power that the town council had, even though they didn't, and they didn't know how to deal with it and, and no faults to them."

I spoke briefly with a cafe worker about how rebuilding the community was going and they used the term 'gentrification' as a primary descriptor for the area. The cost of rebuilding properties became higher than it was for existing residents to move, leaving them unsure of their housing future while they lived in temporary trailers. The increase in property costs resulted in the displacement of original residents who cherished the small-town feel of their community. What was once an area consisting of generational homes and retirement communities transformed into a 'New Paradise' that prioritized economic opportunism and perpetuated the relocation of economic inequality to other regions.

A former resident spoke with me about his visions for Paradise's future, proposing a way to revive the community by uplifting community voices in political settings, giving longtime residents a voice in how they wanted their community to be rebuilt rather than feeling as though it was being built out from underneath them. A major issue with community members was not only that the area was becoming expensive, but that their only options were either to be 'priced

out' of an area or return to their prior living conditions which for some were rooted in generational poverty. He said:

> [Interview with A.M. on 6/16/2022]
>
> A.M: "...you know, this whole, uh, traditional model of a disaster FEMA comes in implements their expert plan to get us back to where we were and it misses an opportunity that the community's calling for, which is to address the underlying issues that cause a disaster and create something new that works for everybody because for a lot of our communities, Paradise included, the ways that we were living before didn't exactly work for everybody."
>
> A.M: "...we needed to really come together as a community so I rented the Terry Ashe Recreation Center. Um, I think it was probably the first week of December. It was like really close to after the town opened up and it was before the town council was even meeting in Paradise. They were still meeting in Chico and I put out an open invitation to the community saying, 'Hey, let's come together and talk about what's going on.' Um, I think the invitation went out on a Wednesday. The event was on a Saturday and 150 people showed up. Immediately I saw a community that so desired to come together and have ownership of their recovery. And I saw that the way for us to not only recover and rebuild was [that] the answers lived with the community. That for them to recover. They had to be in charge. They couldn't be passive."

Another woman I spent the day with provided some positive insight on Paradise's development as well as the unique ways in which the city has heard local grievances and made plans to amend them. What follows is an excerpt of my field notes of our time together:

> The first time I met Jen Goodlin from the Rebuild Paradise Foundation was at her office when she offered to take me on a driving tour of her hometown. I assumed my initial difficulties in finding her place was due to the ongoing construction, though I realized quickly that many of the building landmarks that I was trying to reference on the map were never built back. Her office is a small portable double unit, shared with another engineering company. It has big posters in support of

> Paradise's rebuilding, a chalk door with quotes for inspiration, and two L-Shaped desks next to each other for collaboration. Jen drove me into town proudly saying that all the schools were finally at capacity, and that they had combined the elementary schools, middle schools, and highschools in surviving buildings so that the others could be rebuilt. She takes me on a walk around Bille park and describes how well the community has reintegrated themselves into nature here. She's hopeful that residents continue to reestablish a sense of home and safety outdoors. We pass the local Starbucks store and she describes that when the fire had released chemicals from neglected copper water pipes into the water tables, the corporation donated a large portion of the funds to repair the contaminated water systems, as well as feed and caffeinate local first responders, care workers, and displaced residents.

Community rebuilding involves a multifaceted approach that goes beyond physical reconstruction. It involves collaborative efforts, resourcefulness, and a focus on integrating with nature. Jen's introduction of Paradise to me reveals the importance of external support and partnerships, as seen through the involvement of local businesses and corporations stepping in to provide access to resources. Through these efforts, the community strives to restore a sense of home, safety, and well-being for its residents. Interagency efforts to rebuild and stabilize Paradise as it continues to grow include addressing different types of support provided by agencies like FEMA and other community initiatives like the Rebuild Paradise Foundation.

> We discuss the process of cleaning up debris. It was at this moment that I was informed that FEMA doesn't fully cover tree removal. I later learned through transcriptions of town council meetings that residents were at risk of property liens if they weren't able to remove the trees themselves. Following the discussion of downed trees, she recounts moments from the Camp Fire as we drive down Pearson Road. "This road was so utterly destroyed, a firefighter took his own personal tractor and bulldozed this road against cars and debris to reach people who still couldn't get out". She carries that statement over into our discussion on widening the roads, and the years of continuous construction when I learn the complexities of Paradise's insurance difficulties. The extreme amount of construction is due to readjusting roadways to include secondary entrances and

> exits. Paradise has many neighborhoods that cropped up over time and without much city planning. They had dead-ends, which made them both unsafe and expensive to insure. This is when the conversation turns to Charles Brooks. Brooks is the founder of Rebuild Paradise, who made it his mission "fill the holes where resources are needed", such as simple things not covered by insurance like land surveys for building. He was able to begin the Missing Middle Grant, which gives $5000 to those who apply to rebuild their homes, as well as the 7,500 Septic Infrastructure Grant Refund. According to her, the current donation status of the fund is approximately one million dollars received since it was founded. As we drive down different neighborhoods we move to discuss the rebuilding process itself. She tells me that Paradise relies on a septic system for their residential areas, and the size of the septic capacity restricts the home size. At the initial time of the rebuilding process, over 70% of septic systems needed replacement, which was able to be financially supplemented to residents through funding given by Paradise and Butte County.

Jen's story highlights the limitations of government aid agencies and addresses initiatives such as the Missing Middle Grant and Septic Infrastructure Grant Refund as crucial resources for residents that were not provided through an aid agency but founded by residents themselves. The financial burden on residents for clean-up and threats of property liens overall prove that residents in a post-catastrophe state need avenues for recovery resources and clear communication about the rebuilding process.

> Paradise is only 6 miles wide, stretching across the ridge, with canyons on both sides. Jen reminisces about how densely forested the area used to be, that views of the canyons went unseen until the fire cleared out the trees."Where do we start?" she said, followed by, "You take it one burned car at a time." She drives me down a block near Bille Road that was left untouched surrounded by charred trees and evidence of debris. This area she described as being the ideal situation and hope of what Paradise could be like in the wake of another fire. Not if, she specified, but when. This neighborhood had defensible space around it, cleared trees and brush, and were made from fire safe materials like slab concrete. Many original houses in Paradise were generationally owned and had little to no fire hardening in comparison to newer neighborhoods with defensible space. Rebuilding every home with fire proof materials and concrete is something developers are pushing, though this process is extremely expensive, and some residents claim that it

over-urbanizes the landscape. However, there is successful fire hardening development in Paradise's new schools. Paradise Ridge Elementary School now features a sidewalk around it that acts as a walkway for children but is also wide enough and made of material that can support cars and emergency vehicles during future evacuations. We begin to discuss prevention and protection tactics on the ridge as we walk around Paradise Lake. She brings up reintroducing native plants to the ecosystem and using local Indigenous mixed-methods approaches to fire mitigation. She's hopeful that the city government and county will be able to integrate new ways to think about wildfire in the area now that they have done a complete rebuild.

We finish the drive in her neighborhood, and she walks me to where the Camp Fire Pet Memorial stands. It is a large rock feature where residents who lost animals in the fire were able to place painted rock dedications around the edges. We both get emotional over the amount of loss visualized at the memorial. "People spray painted their phone numbers on their horses and released them into the woods to give them a chance of escaping." She feels deeply that having social green spaces and memorials like this cultivates a longstanding sense of community that was desperately needed after the fire, and it is obvious even years later how valuable the space still is.

Speaking with Jen revealed key insights about recovery resources in Paradise. She indicated that forest clearing done by the fire prompted a reevaluation of the landscape and created new perspectives for rebuilding. The existence of defensible space, cleared trees, and fire-safe materials in some neighborhoods demonstrated the significance of proactive measures in mitigating fire risks and as well as the value of accessible resources for fire hardening. For example, successful fire hardening initiatives in Paradise schools showcase effective resource access implementation, while discussions on reintroducing native plants and indigenous approaches to fire mitigation highlight the importance of sustainable practices and community involvement in preventative and protective safety initiatives.

During and after the Camp Fire, a critical component of framing disaster recovery became how Paradise was represented in the media. While sitting in Lynn's Coffee Shop, I asked one of the baristas about the many documentaries made about the Camp Fire. She responded, "Please keep talking about it, the more that we keep it in the news, the more help we get." The issue of publicity regarding these events is that of a controlled narrative that needs to be succinct enough to present on a large platform. This leads to the omission of certain aspects of the event, personal stories, and critical situations that are omitted in favor of the crisis narrative. Not only have multiple documentaries been produced about the Camp Fire, but the majority of them focus only on the city of Paradise, leaving out their neighboring unincorporated areas of Magalia and Concow, which befell the same fate as Paradise. This evolved into conversations about disaster tourism and the voyeuristic phenomenon of disaster films achieving success on streaming platforms like Netflix. On the final day of my time in Paradise, I was told by a resident in passing that film star Jamie Lee Curtis had been staying in the area to gather information to produce yet another film about the Camp Fire, adapted from the novel *Paradise*, written by journalist Michael McGough. Since Paradise had become the focal point of media coverage, the area also received the bulk of resources, aid, attention, and rebuilding initiatives. One interviewee recounted a Paradise city council meeting where a disgruntled Magalia resident described Paradise as the spoiled older child between the two, and brought forth grievances about the distribution of aid given by federal, state, and local initiatives being disproportionate throughout the affected areas.

Another central theme that emerged confirmed my claims of needing interagency cooperation to accomplish the level of support needed to provide aid to communities in need. A resident I spoke

briefly with worked at Feather River Hospital on the day of the fire. She recounted her evacuation and noted that when the hospital and pharmacy caught fire, so did their supply of critical medications. She spoke of patients who rushed to evacuate and forgot their blood pressure medications, insulin, birth control, and heart medications. Due to storage requirements of these medications, many were unable to keep backup dosages or travel with them. Fellow clinic workers reached out to pharmacies in Chico, Sacramento, and some as far as Oakland to send over emergency medications. She discussed with me her desire for pre-established emergency communications to be set up between hospitals in the event of a catastrophe like this. When I asked if any were in place already, she said it was the responsibility of the patient to call for medication replacements.

Overall, the social landscapes of communities are disrupted and rapidly shifting after mass destruction. Small towns like Paradise and other rural areas are starting from scratch both socially and economically after disasters like the Camp Fire, often with resources that aren't tailored to community needs. The process of community rebuilding, as well as social and economic rehabilitation requires coordination and communication between national, state, and local agencies. Innovation is introduced through strategic economic rebranding, improved infrastructure, building codes and policies for returning residents that continue to positively impact the growth of Paradise.

These findings revealed a critical element of the way extreme weather events and weather catastrophes are prepared for and managed. The public knowledge of how to prepare, secure, and recover from natural disasters is often overestimated by mitigation strategists, thus

comprehensive and accessible public education is a necessary community adaptation going forward. Our understanding of weather catastrophe after-effects will require a restructuring to account for the increase in frequency and severity. The city of Paradise was not completely unprepared for a wildfire; they had systems in place to aid their residents and had overcome wildfires in the past. New mitigation systems are even on the horizon as of 2023, with an increase in mixed-method fire prevention tactics and warning sirens being implemented. However, the intensity and frequency of environmental catastrophe are increasing each year, meaning that Paradise's safety initiatives should be echoed by other at-risk communities in the hopes that social and infrastructural adaptations can create a more secure foundation for community life.

Quantitative Analysis and Disaster Gentrification

The rebuilding of Paradise is being framed by locals as a *regeneration*, a way to ‘rise from the ashes' as a boomtown of sorts. In the years following the fire event, emphasis was placed on supporting business growth and attracting people to the area who would stimulate the economy in lieu of those who had left. While economic prosperity is valuable to community success, tension arises as some original residents aren’t able to maintain their quality of life as Paradise becomes more expensive. This is a pattern seen in rural areas that experience sudden investment in economic growth, more commonly called gentrification. The definition of gentrification is widely debated but generally described as the displacement of low-income original residents of an area with wealthier residents that improve the economic quality of an area (Thompson et al. 2023). Or rather that real estate capital flows into an area that gradually transforms the socioeconomic geography in the area (Perez 2004). Disaster gentrification is an extension of this

concept that includes areas affected by extreme disaster or catastrophe becoming a destination for investors and wealthy individuals to take advantage of inexpensive land, and introduce new capital on the platform of destroyed environments. This study's quantitative research demonstrates the swift transformation of Paradise's social geography due to disaster gentrification. This change is apparent in the census data, which tracks the migration patterns of the population, the reported average income, the number of households living below the poverty line, the reported disabilities, and the average home prices before and after the fire incident. Analyzing these variables over a five-year period helped evaluate the overall quality of life in Paradise and how it has altered as the community strives to rebuild their economy and society.

The results of my data analysis directly relate to my evaluation of quality of life discussed by interview participants in my field work. Tables 1 through 6 include specific values of each variable by year as well as the margin of error. These variables are available as individual line graphs[1]. Below, tables 1 and 2 support local narratives from the interview process, that they observed friends and neighbors struggling to maintain their previous quality of life due to an increase in expenses in the area. Trends in the tables show a stable household income rate from 2016 to 2020 but a decrease in reported poverty levels due to those in poverty leaving the area. With regard to intersecting social geographies and economic conditions in Paradise, households who reported income below the poverty level were no longer able to maintain the cost of living after 2018, and those who maintained a higher income or moved to the area with similar economic status were able to remain in Paradise through the rebuilding process.

[1] See appendices for list of figures

Table 1
Family households with income reported below poverty levels in the last 12 months

Year	$\bar{x}$	*M*
2016	2,052	ME +/- 568
2017	2,290	ME +/- 639
2018	**3,284**	**ME +/- 675**
2019	1,629	ME +/- 555
2020	1,646	ME +/- 743

U.S. Census Bureau (2016-2020). *Poverty Status in the Past 12 Months by Living Arrangement*

Table 2
Mean Yearly Income (Household)

Year	$\bar{x}$	*M*
2016	$62,277	ME +/- 4,076
2017	$64,409	ME +/- 4,374
2018	**$66,941**	**ME +/- 5,206**
2019	$66,245	ME +/- 5,227
2020	$64,597	ME +/- 6,690

U.S. Census Bureau (2016-2020). MEAN INCOME IN THE PAST 12 MONTHS (IN 2016 INFLATION-ADJUSTED DOLLARS)

This was also seen more dramatically in tables 3 and 5 where property sale prices increased by $97,053 from 2018 to 2019 even though population had decreased by 4,390 in 2019, and 4,593 again in 2020. After reviewing all the tables, it is evident that the Camp Fire of 2018 had a significant impact on the area. The data indicates a consistent decline in population, a rise in household income, and a gradual decrease in the number of households reporting disabilities (seen in Table 4).

The decrease in population but maintenance of income averages and increase in housing costs is consistent with resident experiences with gentrified rebuilding. Many residents left to nearby Magalia, Concow, Oroville, or Chico, but those who remained or moved to Paradise were those able to afford the rebuilding process. I drove through the neighboring communities of Magalia and Concow over several days and the contrast of their recovery versus Paradises was striking. The available data for Magalia and Concow are limited compared to Paradise, however, there is a visible difference in community recovery efforts. The neighborhoods of Paradise were often busy with contractors and mobile homes while Concow and Magalia after four years still dealt with debris and temporary trailer housing.

Table 3
Demographic Means in Paradise (Population Overview Only)

Year	μ	*M*
2016	26,396	ME +/- 45
2017	26,437	ME +/- 28
2018	**26,543**	**ME +/- 27**
2019	22,153	ME +/- 25
2020	17,560	ME +/- 23

U.S. Census Bureau (2016-2020). ACS DEMOGRAPHIC AND HOUSING ESTIMATES

Table 4
Households that reported members with disabilities

Year	$\bar{x}$	*M*
2016	6,498	ME +/-700 at 24.9% ME +/- 2.7
2017	6,494	ME +/-734 at 24.9% ME +/- 2.8
2018	**5,826**	**ME +/- 675 at 22.3% ME +/- 2.6**
2019	4,914	ME +/- 629 at 22.5% ME +/- 2.9
2020	3,956	ME +/- 609 at 22.9% ME +/- 3.5

U.S. Census Bureau (2016-2020). DISABILITY CHARACTERISTICS

Table 5
Paradise Housing Sale Cost per annum

Year	$\bar{x}$
2016	$233,271
2017	$266,004
2018	**$287,449**
2019	$384,502
2020	$379,684

Century 21 Select Paradise (2016-2020) *Paradise Annual Housing Statistics*

The increase in home prices for the area were specifically done through data sourced from the U.S. Census Bureau. These figures were based on annually collected data, however, I was also given data from Century 21 Paradise by a local realtor who keeps meticulous records of home prices in the Paradise, Concow, Magalia, and Chico areas per month. I chose to view the data given for Paradise for the months before and after the Camp Fire occurred, as monthly data was not provided by the census.

In table 6, their records show that in October of 2018, the average home sold for $277,442. In November that price decreased to $245,389, and in the following months of December and January, the average home cost increased to $547,500 and $468,556. The sharp increase in home/lot selling price following the Camp Fire corroborates personal stories of residents who reported that the total devastation of Paradise was used as a platform for growth by opportunist investors from outside the area.

Table 6
2018 Monthly Home Selling Price: Paradise, CA

Month and Year	$\bar{x}$
October 2018	SP $277,442
November 2018	**SP $245,389**
December 2018	**SP $547,500**
January 2019	SP $468,556

Century 21 Select Paradise (2016-2020) *Paradise Monthly Housing Statistics*

When assessing factors of quality of life, my evaluation provided evidence of each variable contributing to the overall experience of affected and new residents of the Paradise area. Through my field notes, qualitative data, and quantitative data, I assert that affluent populations were able to remain and resettle the Paradise area following the disaster due their financial status. However, those who were at or below the poverty line or facing disabilities left the area and contributed to the population decline. Public investment in community building after disaster identifies gentrification as both an ongoing process and outcome of the rebuilding process. This more often occurs in disaster-impacted towns or rural areas in decline which are defined by their physical deterioration, concentrations of poverty, and racial segregation of people of color (Zuk et al., 2018).

The descriptions of gentrification in the context of natural disasters and catastrophes are nuanced and reflect the spatial, physical, demographic, and economic changes in areas like Paradise. Measuring the displacement of residents through the gentrification process is challenging to do statistically. However, gentrification is not just evident in changes to infrastructure and economics but can also be felt by residents who choose to stay in Paradise and witness the social and economic reconstruction of their communities. Gentrification after disaster specifically alters

the *meaning* of an area. Consequently, the process of adjusting to fire hazards in general can take place over a variety of temporal and spatial contexts and may involve the hierarchical structure and symbolism associated with it (Edgeley, 2021). My earlier discussion of locality as a way for the community and the self to define the parameters of belonging is similar to the way that disaster gentrification functions in Paradise. As evidence of the fire is cleared away for new neighborhoods, parks, and businesses, the social memory of the fire attaches remaining residents to Paradise before the event, creating a boundary between themselves and new residents.

One way to understand the effects of gentrification on a community is through Victor Turners theory of *liminality*, which identifies a mode of transit, or a space in between a temporal and spatial certainty (Nimführ, 2016), The concept of liminality was first developed by Arnold Van Gennep and later expanded upon by Victor Turner describing this mode of transit in three parts: separation, transition, and incorporation (Nimführ, 2016). It can be argued that as residents face internal displacement after disaster, they experience a kind of liminal space, that they are not *home*, but not *home-less*. Members of the Paradise community experience a hierarchical social dynamic between those who remained in Paradise after the fire to rebuild versus those who migrated to the area afterwards. As the community changes economically, it also changes socially, meaning that neither groups are socially integrated with each other, which challenges the rehabilitation of the area as a whole (Nimführ, 2016).

Following a reframing of what shelter, housing, and home look like following catastrophe, there comes a disconnect in discourse on property, looting and the salvage economy. The regenerative nature of salvaging, particularly happening in the aftermath of disasters, is often framed as

looting in vulnerable areas. However, the nature of looting is relative to opportunism, while the process of salvaging is about reintegration. In the context of vulnerable areas, such as those affected by natural disasters, the distinction between salvaging and looting becomes important. The practice of salvaging can help to rebuild communities by providing necessary resources and materials, while looting can cause further harm and disruption to an already fragile environment. The emotional attachment that individuals have to a particular place or community can greatly influence their perceptions of salvaging and looting. In the aftermath of a natural disaster, people may feel a deep sense of loss and dislocation as their homes and communities are destroyed. The process of salvaging, which involves recovering and reusing materials from the disaster-stricken area, can help to restore a sense of continuity and connection to the place. Salvaging can also help to rebuild the physical infrastructure of the community, which is essential for people to feel safe and secure in their environment. In contrast, looting can be perceived as a violation of the community's emotional and physical boundaries, as it involves taking resources for personal gain without regard for the needs of others. Furthermore, the distinction between salvaging and looting can be complicated by the emotional attachment that people have to their homes and communities. People may view salvaging as a way to preserve and honor the memories and traditions associated with a particular place, while looting can be seen as a desecration of those memories.

This is an argument I saw in local discussions of property value in Paradise after the Camp Fire. The mass purchasing of residential lots was framed as a form of salvaging and repurposing by developers while simultaneously acting to destabilize residents' relationships to place in the aftermath of catastrophe. This is similar to some community members comparing realtors and

new buyers to vultures, a stark contrast to developers who feel that repurposing land is a form of salvaging the remnants of what was destroyed. The argument of salvaging versus looting is a core division of Paradise's regeneration process, where those who are adamant about regenerating the community through increasing population and investing in the economy stand opposed to original residents who feel preyed upon (López-Carresi et al., p. 153).

In short, due to the catastrophic nature of the Camp Fire, residents were affected in all areas that contribute to the overall quality of life. By analyzing descriptive statistics, comparison charts, and graphs, I identified a correlation between each variable from 2016-2018 and 2018-2020. This correlation indicates changes in the quality of life after the Camp Fire that reaffirm the gentrification process as discussed above. I selected each variable (household income, poverty levels, reported disability, housing costs, and population) to evaluate the gaps in quality of life that are most affected by disaster events. Additionally, I chose these variables to analyze the areas of life that have the most significant impact on socioeconomic stability and resilience potential. My research findings were substantiated by two sources of evidence: statistical analyses and personal narratives of the interviewees. The interviewees recounted their experiences before, during, and after the fire, which provided additional support to my conclusions. By combining these sources of data, my research uncovered not only the effects of disaster gentrification on individuals but also on the community as a whole. Furthermore, these findings shed light on the community's ability to recover and be resilient in the face of such disasters.

Discussion: The Climate Disaster Continuum

"Anthropology's long acquaintance with culture under duress offered practical insight into how to study a disaster" - David Bond, *Negative Ecologies*

Language

The way in which we describe and categorize climate disasters is changing. The language often currently used to describe these events - "once in a lifetime wildfire," "500-year flood," "climate doomsday," and "climate Armageddon"- can seem distant and exaggerated, making it difficult for individuals to recognize the ongoing socioeconomic destabilization caused by these disasters. Rather than using language that implies isolated events, it is imperative to adopt continuous language to reflect the persistence of these events. The phrase "climate disaster continuum" refers to the longitudinal sequence of successive and persistent extreme climate disasters. The emergence of modern climate catastrophe is often viewed as a reflection of society's disregard for the future, as natural disasters are no longer truly "natural," and are increasingly influenced by human-made forces. Natural phenomena such as tidal fluctuations, hurricane, tornado, and monsoon seasons, were once considered predictable as we tracked them annually, but now their behaviors are increasingly unpredictable due to climate change. Our current approach to mitigating harm from these events is reactive, with a "call and response" relationship in which natural disasters are the aggressor and we provide aid in a defensive manner by default.

It is crucial to recontextualize this relationship, beginning with the language we use to describe it. The terminology "natural disaster" has been widely used to describe catastrophic events. However, in light of the increasing severity of these events and their widespread and devastating impact on multiple aspects of society, it is recommended that the term "catastrophe" be used

instead. This terminology better reflects the gravity of the situation and underscores the fact that these events are not limited to the natural world, but have significant consequences for humanity. Therefore, it is proposed that the use of the term "catastrophe" be adopted in lieu of "natural disaster" to more accurately depict the scale and impact of these events. When a catastrophe is viewed through the lens of a developing climate disaster continuum, recovery efforts can be mobilized early and tailored to the specific needs of affected communities. For instance, areas like Paradise, California, where the risk of disasters is high, have learned to coexist with natural hazards as a part of their daily life. As the human-environment relationship is both cultural and instinctual, we react to it in the same way we evaluate safety or threats. However, instead of simply reacting to the consequences of climate disasters, we must shift our perspective and approach these events proactively. This means taking necessary precautions to prevent and mitigate the risks associated with climate change before they occur.

Development and Infrastructure

To effectively manage the acceptable risk thresholds of communities, it is essential to identify the benefits that attract residents to those areas. This understanding is vital for the implementation of appropriate mitigation techniques and accessible safety education for the public. For Paradise, residents spoke with an air of nostalgia about its small town feel, as well as its picturesque, densely forested areas. Most residents were retirees or generational land owners. Others sought out the convenience of living off grid deeper in the woods. The idyllic natural environment of Paradise, neighboring Concow, and Magalia became the locus of destruction due to lack of wildfire mitigation tactics like tree clearing, or uniform residential fire hardening. According to some residents, land stewardship and management practices were actively rebuffed by city

officials to preserve the aesthetics of the area. Residents also speculated that wealthier land owners with larger properties were able to take advantage of the thick forest to ignore their less affluent neighbors. All of these factors combined to create a high-risk wildland-urban interface (WUI) that was decimated in a few short hours. These risk factors were not unknown to city developers; one resident reported that when original plans were laid out for the ridge, environmental consultants and firefighters explained factors that made the area difficult to maintain or defend in the event of a massive wildfire. I was informed by a Paradise local that this discussion happened in 1978, just before Paradise was incorporated, and he observed their warnings become a reality in 2018.

Urban development is often viewed as an adaptive strategy for human habitation. Our perception of natural disasters as uncontrollable forces leads us to prioritize the creation of defensible spaces over environmentally integrated spaces. As a result, urban areas are designed to provide a sense of security and protection from natural hazards. In his book, "Negative Ecologies," David Bond examines the phenomenon of accepting high-risk urban spaces as a benign casualty of progress. He uses the example of industrialized oil to illustrate this point, noting that we have become accustomed to the risks associated with it, as we have with other natural catastrophes like wildfires. In Paradise, I briefly spoke with a man outside of a 76 Gas Station who was moving his family into their new home after three years of construction, “It’s just a part of life up here, you either accept that fire is your neighbor or you leave”. By accepting these risks as a necessary part of progress, we have created an environment in which high-risk urban spaces are seen as inevitable and therefore not worth addressing. This attitude is detrimental to the long-term health

and sustainability of urban areas and highlights the need for a more proactive approach to urban planning and development.

Mobility and Relocation

These efforts are not evenly distributed among economic classes though. Affluent communities in at-risk areas are presumptuous in assuming that personal financial stability will spare them. As reiterated in field notes from my time in Paradise and the evaluation of evacuation strategies, nature doesn't care about area codes and sentimental property. More affluent neighborhoods hold attitudes that are striking compared to systematically marginalized communities who do not have the resources to leave. I met a man outside of a coffee shop in Chico who was the landlord of a house in Paradise during the Camp Fire. He had purchased the home as an investment property and when his tenants evacuated and the house was destroyed he chose to rebuild in the same place. When I asked him how he felt about rebuilding a property in Paradise knowing he would rent it out to another family he said, "The big one already happened, I'll put my mandatory 5 feet of concrete around it and call it a day". When I asked what would happen if another fire ran through the area, he replied, "Then I'll build one closer to the lake." It was in this phase of my research where it became clear that only those guided by financial opportunism move to re-gentrify communities from the ashes after the slate has been wiped clean. "Build back better" is a common phrase echoed in these spaces. What then, does building back better mean? And for whom? Cities with wealth and higher risks of disasters often force out long-time residents living on generational properties, in government-subsidized housing, or in low-income areas that have been emptied by disasters. This is why there is an argument in favor of retreat and relocation planning instead of controversial rebuilding strategies. Retreat and relocation planning involves

moving residents from at-risk areas to cities with lower risks of severe weather and long-term climate change disasters. This mitigation model requires cooperation between state and government agencies to support the development of infrastructure and allocation of resources in low-risk areas that will experience population growth during migration periods. In Paradise, those unable to afford rebuilding their properties were incentivised by insurance agencies and local governments to sell their lots, while others were priced out of the area due to an increase in property value leading to the inability to afford building and architectural permits. This led to many original community members relocating to nearby cities, counties, and states. Below are migration maps provided by the U.S. Census Bureau that show migration flows from Butte County from 2015-2019. The first map labeled “Total Outbound Migration Flows for Butte County, California” indicates where residents from Butte County (outlined in red) resettled throughout the United States from 2015 to 2019. The darker blue counties were the highest receiving areas and the light blue and white were the least. The second map labeled “Total Inbound Migration Flows for Butte County, California” indicates which counties had original residents relocating to Butte County from 2015-2019. The area received the most people from darker orange counties, and less from lighter orange and white counties.

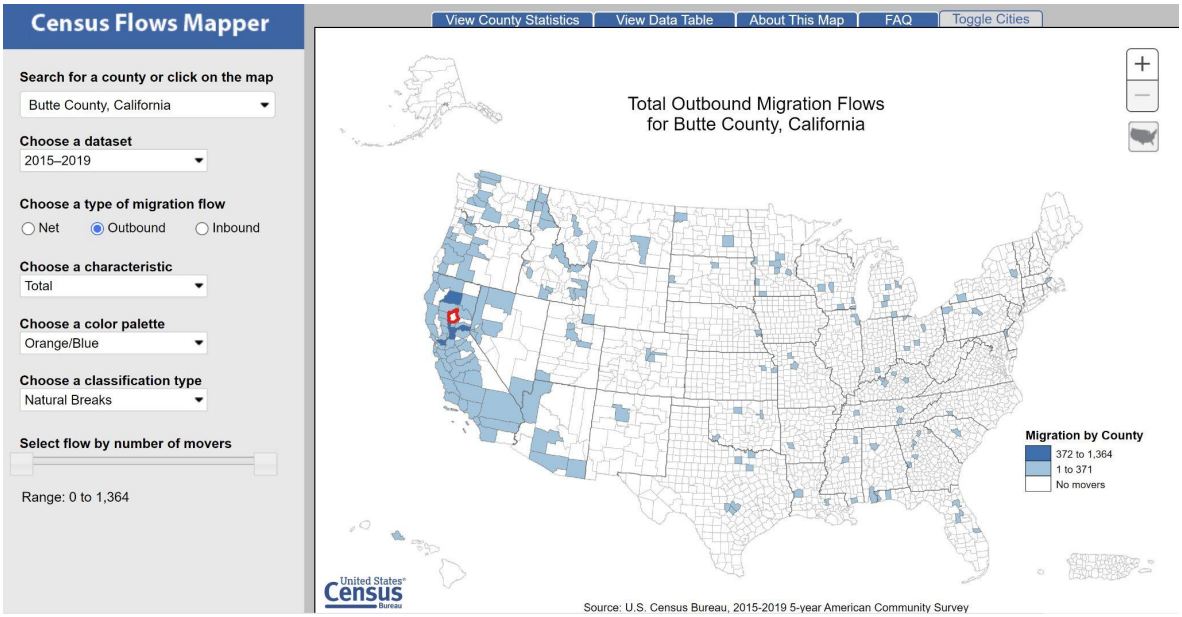

Figure 2. Outbound migration flow from 2015-2019: Butte County, CA

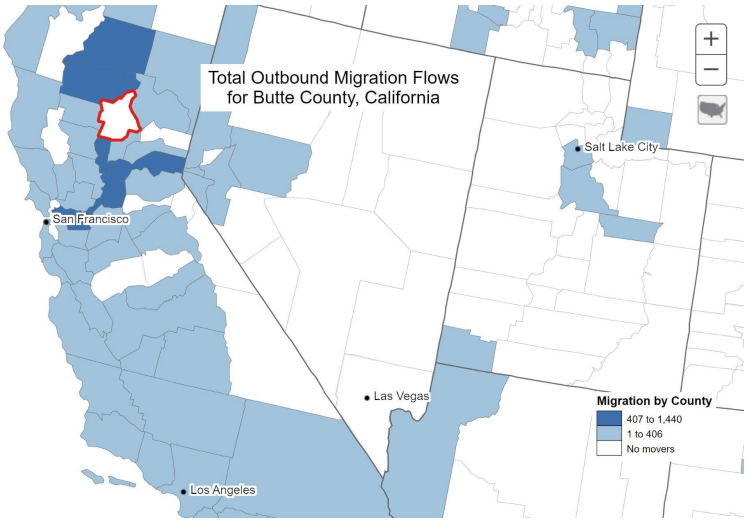

Figure 3. Outbound migration flow from 2015-2019: Butte County, CA

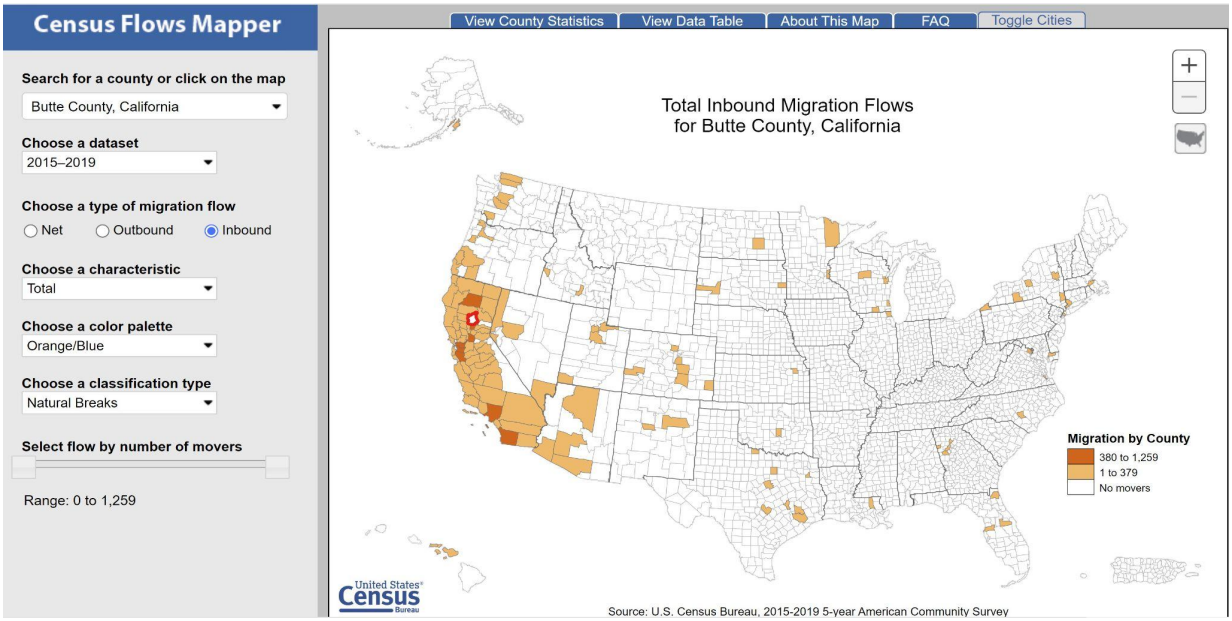

Figure 4. Inbound migration flow from 2015-2019: Butte County, CA

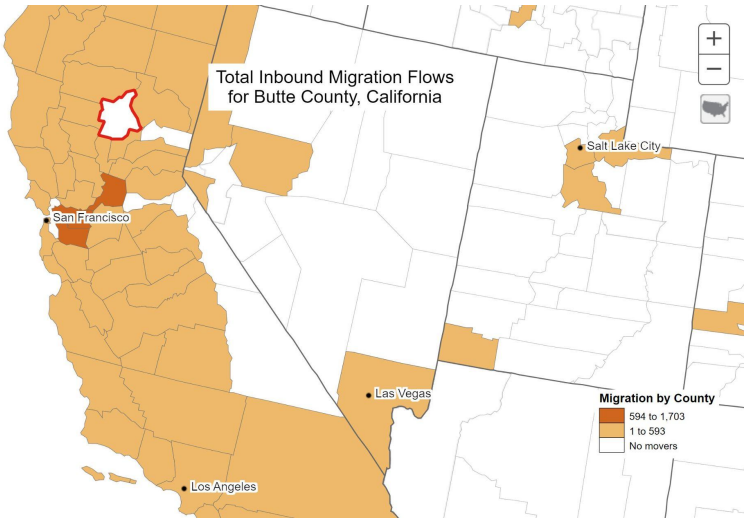

Figure 5. Inbound migration flow from 2015-2019: Butte County, CA

Geographic information tools, such as the Census Flow Mapper, provide a valuable means of analyzing which counties are experiencing increased rates of population dispersal from high-risk counties, such as Butte. This analytical approach can be advantageous for disaster mitigation

efforts and policymaking by facilitating the targeted allocation of resources to the counties that are experiencing a surge of people during or after disaster events. By utilizing this information, policy makers can better identify areas where resources are needed most and where assistance is required to manage the displacement of people from high-risk areas.

In the wake of catastrophe, those who are able to relocate begin to move to adjacent cities where there is economic opportunity and available housing. However, this puts pressure on receiving communities to support higher populations as recurring internal migration alters regional demographics. The solution for the inevitable shift in population is complex when factoring barriers to mobility and unstable socioeconomic conditions. The factors that made evacuation challenging for certain residents, such as inadequate financial assistance, lack of preparedness, and limited resource networks, are also hindering their ability to relocate. Thus, marginalized residents are thrust into a liminal space, where they experience loss of belonging and a disrupted relationship to space and place.

Understanding Environmental Violence

It is important to acknowledge that although push factors for migration can be slow moving, they are just as disruptive as sudden environmental catastrophes and displace just as many, if not more, people. Rapid migration due to extreme events as well as migration that occurs over time both intersect with multiple push and pull factors like economic opportunity, or seeking a community safe from environmental risk. The role of infrastructure is a critical component to community security and can become the cause of anticipatory migration. The PG&E power line which caused the Camp Fire is an example of infrastructural influence on disasters. The neglect

of infrastructure is a form of necropolitics, where neglecting infrastructure becomes a passive acceptance of acceptable deaths due to the *creation* of high-risk areas. Achille Mbembe first discussed necropolitics in 2003, and his concept provides insight into the relationships between disaster mitigation, infrastructure, and power. His theory identifies how power shapes the distribution of death and vulnerability in marginalized communities (Mbembe et al., 2019). Moreover, Mbembe's concept further illustrates the creation of at-risk spaces, where disaster-vulnerable areas emerge due to willful neglect of infrastructure. Using necropolitics as a lens to examine climate-adapted infrastructure reveals how certain populations are left vulnerable, perpetuating conditions that increase the risk of abandonment and death (Mbembe et al., 2019). Furthermore, Mbembe extensively examines the role of power in decision-making processes, especially in implementing mitigation strategies. This is evident in Paradise, where PG&E's lack of care had significant consequences. Power dynamics and the level of trust in authority figures play a crucial role in determining how resources are allocated, community priorities are set, and whether marginalized voices are included or excluded from the decision-making process. Understanding the role of power wielded by corporations like PG&E is vital for participatory decision-making that considers the needs and vulnerabilities of local populations. In an anthropological context, necropolitics offers valuable insights into the intersection of power, violence, and structural inequality. It explores how power operates through the manipulation of life and death, highlighting how risk assessment can be altered for certain populations through the evaluation of structural conditions. Necropolitics, in the context of disaster mitigation and climate-adapted infrastructure, analyzes how these dynamics shape disaster responses, infrastructural development, and reconfigures the socio-spatial landscape of an area post-disaster. The creation of non-natural high-risk areas due to infrastructural neglect is

exemplary of slow-moving violence. Such violence presents itself as socioeconomic inequalities faced by impoverished and marginalized communities that lack the ability to mobilize and are left with no other option but to remain in vulnerable areas. In a post disaster state this can look like a significant increase in poverty in affected communities, as well as systemic violence faced by unhoused individuals who face barriers to evacuation, recovery, and rehabilitation resources in the aftermath of catastrophe. In Paradise this was seen by those who were given temporary trailers to live in but were unable to afford property insurance or construction costs. Many individuals lacked the support networks to apply for assistance online, and were left to navigate convoluted aid programs and insufficient payouts from PG&E lawsuits. After surviving a catastrophe, marginalized populations are often left socially and financially insecure due to the resulting socioeconomic conditions. Therefore, revised preventative policies that support access to aid are necessary to address this issue. These conditions are not unique to Paradise as a case study. Environmental scientists, anthropologists, and migration scholars frequently discuss nations like Kiribati, Tuvalu, China, Afghanistan, South Africa, Ethiopia, Yemen, and India as vulnerable to extreme climate change related catastrophes. They are facing the same patterns of migration, socioeconomic and political instability, and increased risk of displacement due to lack of mobility and insufficient resources.

Recontextualizing our semantic relationship to violence is one way to further the social understanding of responsibility to human-environmental relationships. Violence is often listed as a push factor for migration and as a qualifying factor for refugee status. Beyond any discourse on threats and victims, it is important to view the impact of environmental catastrophe as having diverse consequences for individuals also pressured to migrate as a household strategy, for

economic opportunity, or to escape persecution (Scheffran et al. 2012). Environmental damage, climate change, and natural disasters are not merely amplifiers of migration push factors, as is commonly suggested. Rather, the quality of the environment itself acts as the root for which migration push and pull factors emerge from. In short, we are exposed to a form of cyclical violence whereby the greater the extent of environmental degradation, the greater the likelihood of environmental hazards adversely impacting human populations. Examining disasters that are intensified by human actions within the environment enables us to perceive an environment that has been colonized by an irresponsible humanity. Instead of holding power structures accountable for exploiting vulnerable communities, the blame is often placed solely on the catastrophe. Overall, re-evaluating our understanding of violence in the context of human-environmental relationships and acknowledging the complex consequences of environmental catastrophes for individuals can help us recognize the root causes of migration push and pull factors and the responsibility of human actions in exacerbating environmental hazards.

Climate Policy and Migration

Young voices are taking part in this movement, making the future of disaster mitigation and climate education an intergenerational issue. One of these individuals is Xiuhtezcatl Tonatiuh Martinez, a 20 year old member of Earth Guardians, a prominent environmental activism group, who by age 15 had already spoken three times before the United Nations in defense of climate policy in the United States (Olson 2015). At the 2015 UN Climate Change Conference where the Paris Agreement was adopted, he released a statement: “After 21 years of the increased suffering of frontline and indigenous communities, people of color, women and children, these agreements

are still not enough. The evidence is clear. The science is present. The stories are being told" (Tonatiuh 2015). Climate and disaster mitigation strategies fall victim to gaps in legal frameworks and tense discussions among academic researchers (Svoboda et al., 2019). By adopting a human-rights based approach that prioritizes the security of displaced individuals as a fundamental concern of anthropogenic climate change, policy implementation may become proactive and preventive in nature. The 2015 Guidance on Protecting People from Disasters and Environmental Change through Planned Relocation is one anticipatory document written regarding slow-onset disasters like prolonged drought or rising oceans. This document was developed by the UN Refugee Agency offering a legal and institutional framework for planned relocation, stating that persons at risk of environmental change have the right to request (and challenge) planned relocation (Svoboda et al., 2019). The Nansen Initiative also set forth principles regarding disaster induced displacement and migration that called for climate foresight, improved data and monitoring, resiliency building and solutions based on global consultation from origin and destination countries and international organizations (Svoboda et al., 2019). In the face of anthropogenic climate change, centering a human-rights approach to policy making validates the needs of environmental migrants and displaced persons.

The distinction of environmental migrants and economic migrants is complex and often leaves room for both to be true based on social and political context (Dwyer, 2020). When examining places like Paradise, California, it is not accurate to attribute the displacement of residents solely to economic reasons, although that may be a contributing factor. Many individuals were forced to migrate due to environmental factors. However, in other similar communities around the world facing comparable circumstances, residents are often labeled as economic migrants because there

is no specific disaster that caused their migration. Both slow-onset and sudden-onset environmental hazards drive migration, furthering factors of risk and vulnerability that expose at-risk populations to further injustices (Dwyer, 2020). It is important to note that environmental migration is not solely legitimized by sudden, catastrophic events. It also includes the gradual loss of habitable land, which can lead to migration over time. In conclusion, the distinction between environmental migrants and economic migrants is often not clear-cut and varies depending on social and political context. The example of Paradise, California shows that while economic factors may play a role in displacement, environmental factors are often the primary drivers. However, in other similar communities without a specific disaster, residents may be labeled as economic migrants despite facing comparable environmental circumstances. Both slow-onset and sudden-onset environmental hazards contribute to migration, exacerbating the risk and vulnerability of at-risk populations. It is important to recognize that environmental migration encompasses not only sudden, catastrophic events but also the gradual loss of habitable land, which can lead to displacement over time. A comprehensive approach that prioritizes the human rights of displaced individuals is crucial in addressing the complex and multifaceted issue of environmental migration.

Conclusion

This study explored the effectiveness of disaster recovery efforts in small communities, with a focus on micro-communities that form after displacement. The case of Paradise, California, is examined in terms of social vulnerability, resource access, strategic rebuilding, and place-making. The study found that resiliency and social vulnerability are important factors to

consider when evaluating the effectiveness of disaster recovery programs. I used three central theories to support my analysis, Structuration as discussed by Dr. Edgeley and Dr. Giddens as a way to illustrate the value and complexity of organizational responses that contribute to recovery and resiliency factors unique to community needs. I also used ideas of liminality as described by Victor Turner to discuss the in-between state faced by Paradise residents during the rebuilding process and their subsequent social integration. I then used theories of embodiment as presented by Marcel Mauss and Victoria Sword-Daniels to discuss the ways in which the experiences of displacement become embodied through uncertainty. The insights gained from this research can inform policies and programs aimed at supporting communities affected by frequent, intense natural disasters. The analysis presented in this thesis has broad implications for government and civil society systems and could help mitigate the physical, structural, and psychological harm experienced by affected populations. Overall, this research highlights the importance of understanding and addressing the difficulties experienced by affected populations to reduce post-catastrophe harm.

It is crucial for future research in this area to be founded upon the first-person disaster narratives of community members, first responders, and volunteers. Their experiences contextualize the efficacy of current systems, and reveal gaps in support networks that cause lasting financial hardships and debilitating traumas. Furthermore, policy makers and others in positions to enact social change must acknowledge the ways that migration, political and economic infrastructure, and structural vulnerability intersect.

The reasoning for my extensive exploration of environmental policy, migration, climate change, and violence stems from the profound impact of the narratives I encountered during my research in Paradise. The aftermath of a major catastrophe in a small community has far-reaching effects, which extend beyond the immediate period and include marginalized populations and socioeconomic landscapes in cities and towns across the globe. Viewing events such as the Camp Fire, natural disasters, and gradual climate change in isolation within a theoretical framework is overly simplistic. In reality, the accumulation of such incidents generates significant consequences in smaller communities. The strategies we adopt in terms of preparing for, securing, and recovering each location can have a significant impact on our overall response to disasters and catastrophes. Therefore, it is crucial to comprehend these dynamics to progress towards a more resilient future.

Paradise residents desire to return to what life was pre-fire can be envisioned as more of an afterlife, considering the extreme devastation they faced. The afterlife of Paradise is a unique consequence of disaster, described by Bond as a "persuasive subject position" for a restructuring of policy and social habitus. A way forward includes intergovernmental cooperation that aims to develop intentional human rights policies that support all types of catastrophe mitigation including cooperative economic measures free from inflamed political discourse. The goal is to engage with hazard mitigation discourse creatively and collaboratively. Environmental futures should be realistic and calculable but mobilize imaginative acts that remind us the future is malleable and more importantly *producible* (Yusoff & Gabrys, 2011).

In an ideal world, edging on naive utopianism, government agencies would contribute aid under the assumption of community resilience taking priority. Consider then a communal ideology platformed upon mutual *survival* rather than the nihilism of mutually assured destruction. Centering community and the human experience after catastrophe is the first step forward in navigating disaster mitigation. It is a way that hopefully disregards the word 'unprecedented' and works to become radically normal.

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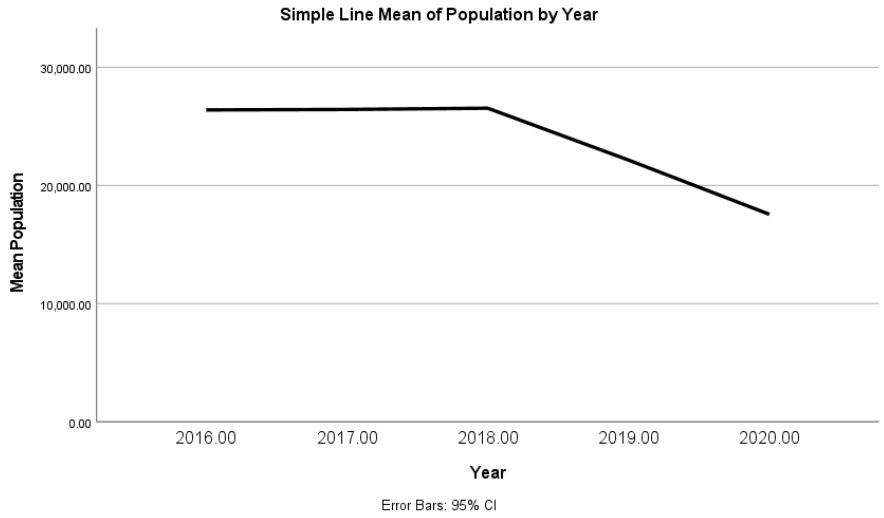
APPENDICES

Line graph 1



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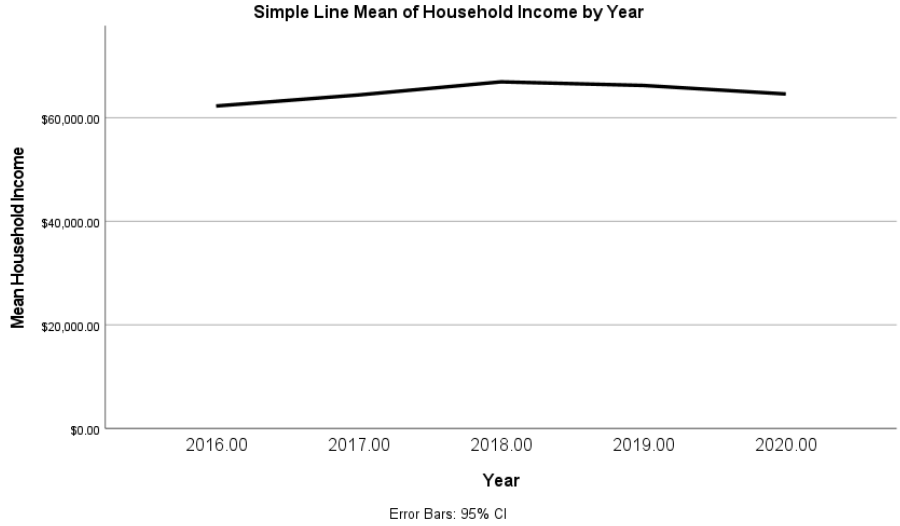

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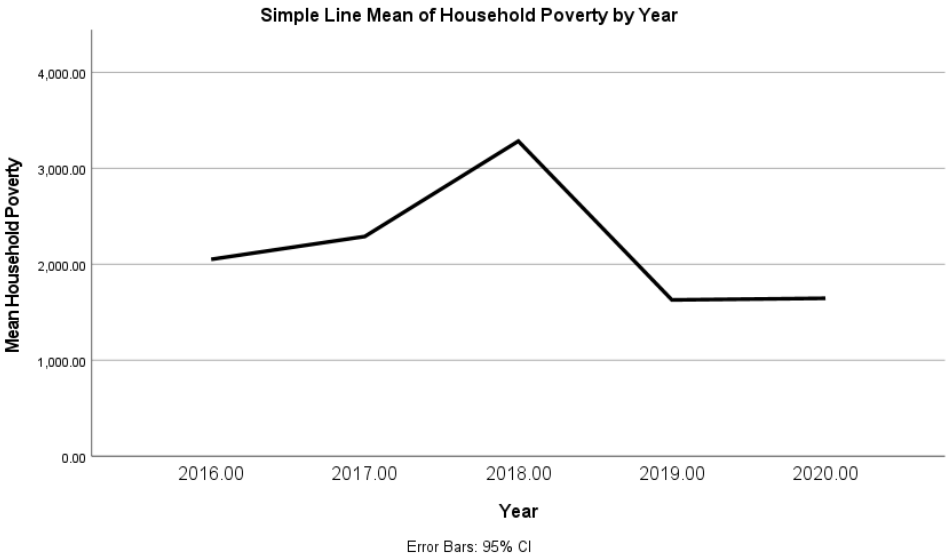

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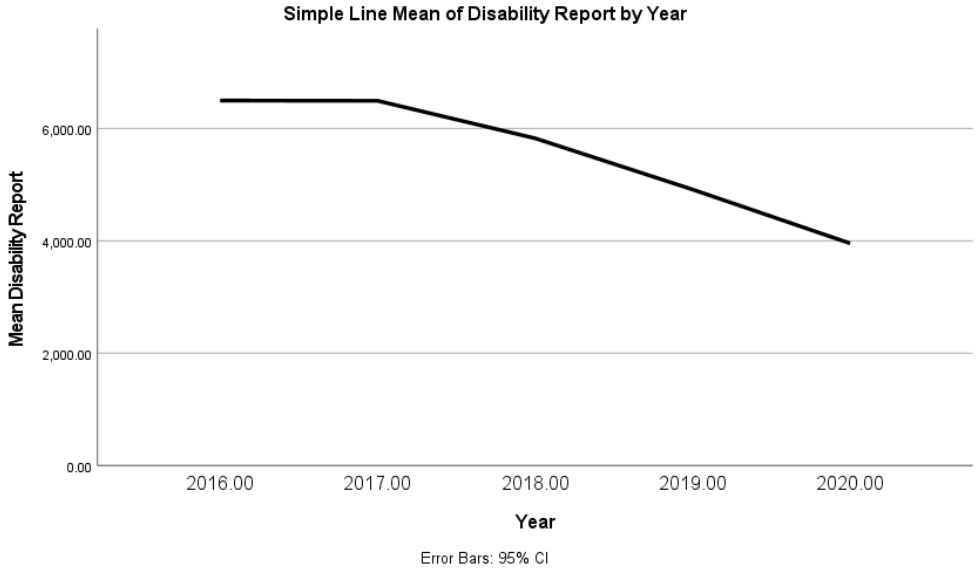

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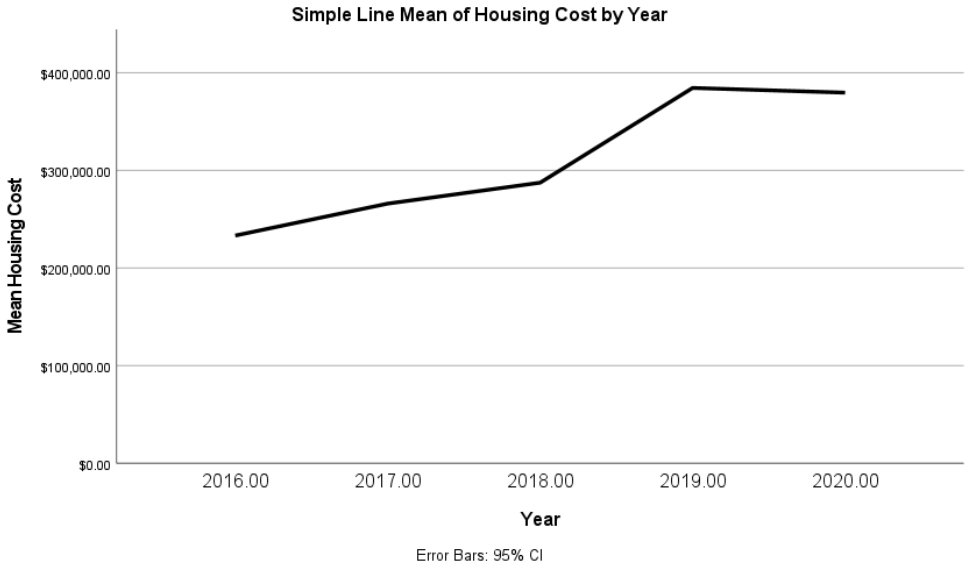

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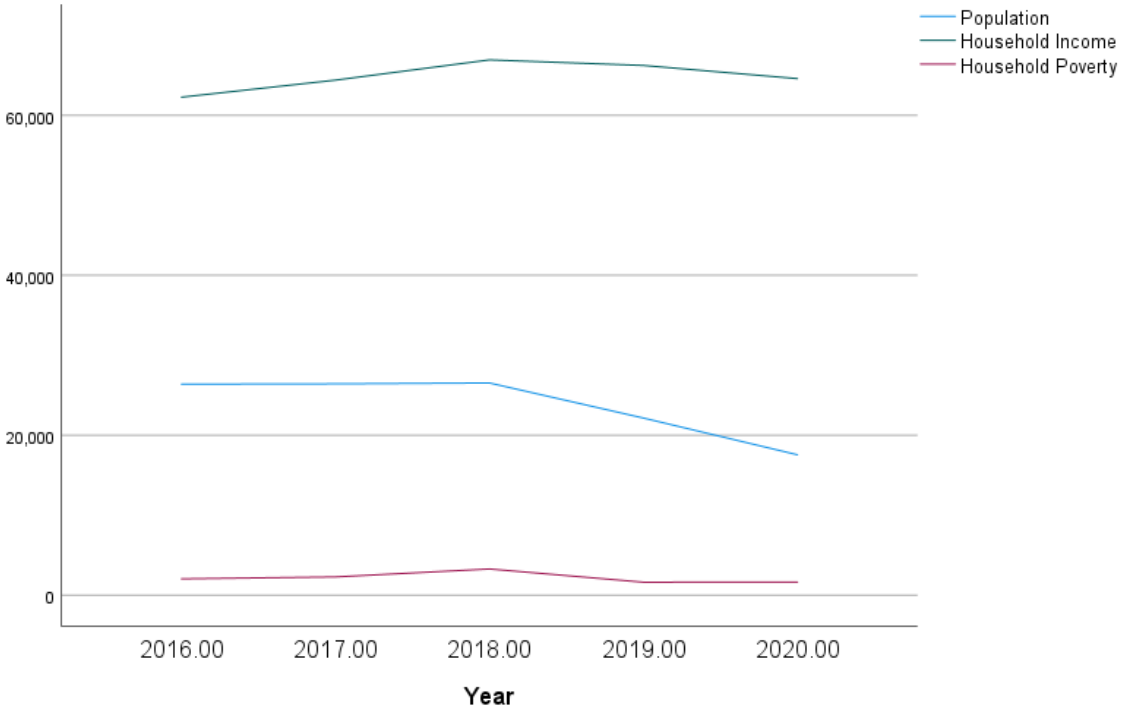

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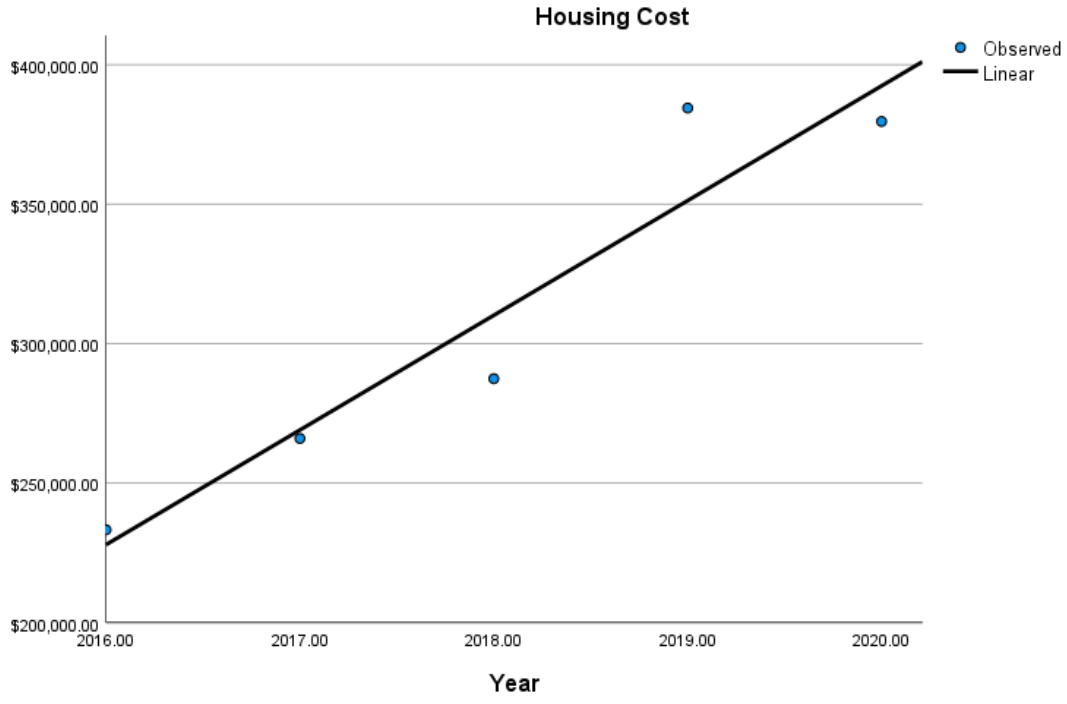

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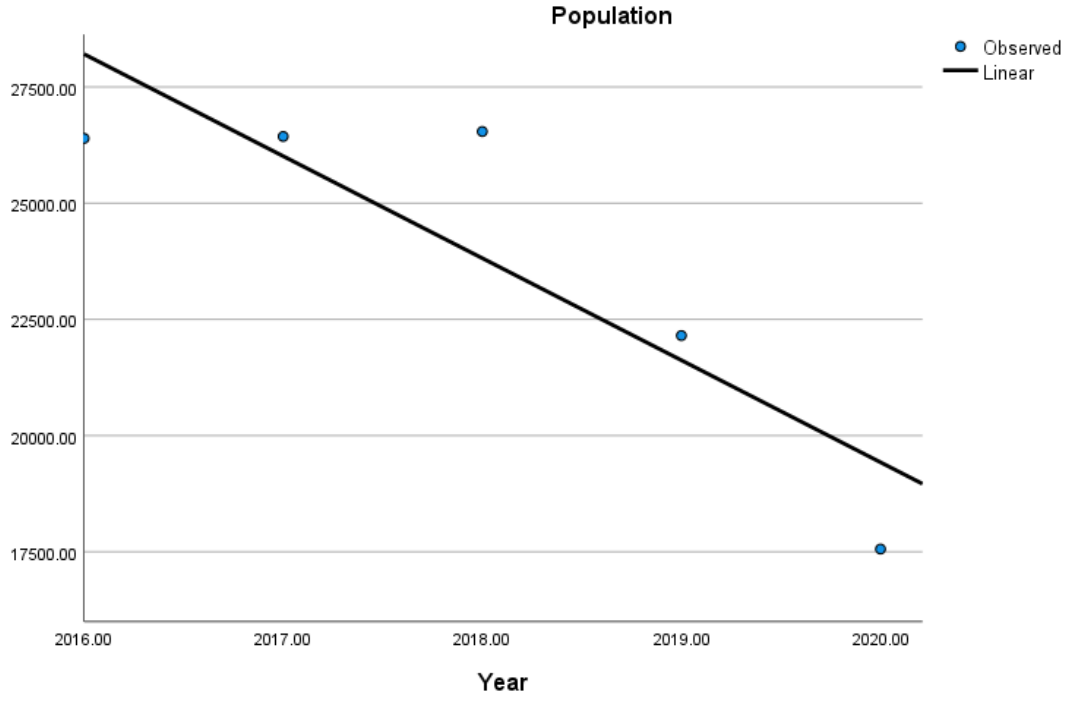

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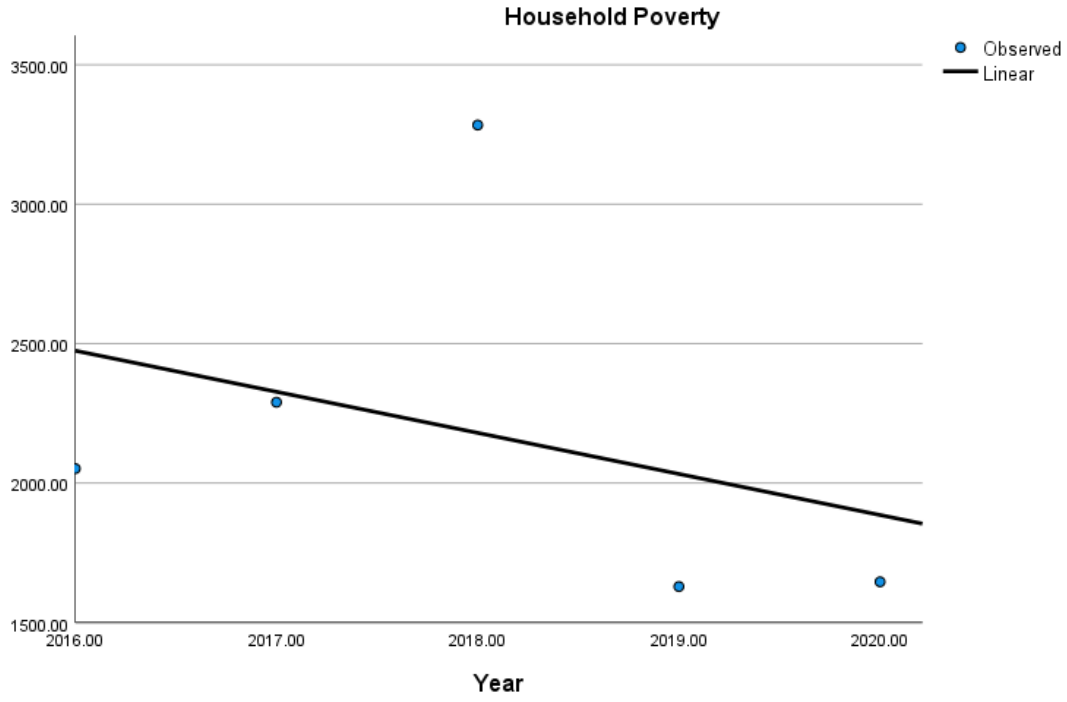

Line graph 10