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**PSYCHO-SOCIAL COST OF GREATEST MAN-MADE
HYDROMETEOROLOGICAL-DISASTER : “LUSI”
SIDOARJO**

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List of Acronyms

LUSI	Lumpur Sidoarjo/ Sidoarjo Mudflow
ISS	Institute of Social Studies
UNDP	United Nations Development Programme
IDI	Ikatan Dokter Indonesia / Indonesian Doctor Assosiation
JATAM	Advocat Mining Network
WALHI	Indonesia Friend of The Earth
ELSHAM	Lembaga Studi dan Advokasi Hak Asasi Manusia/Institute of Human Rights Studies and Advocacy

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Abstract

Fifteen years have passed since the Lapindo mudflow disaster in Sidoarjo, East Java. Notwithstanding, there is no sign that the livelihood lost in this human and environmental tragedy would ever be restored. Victims are left behind when recovery efforts conflict with Indonesia's development agenda. After losing living space, these victims face multiple layers of marginalization, transforming Lapindo from a hydro-meteorological disaster to a serious socio-political disaster. This study examines the psychological Affect of man-made disasters on marginalized communities, which is not included in the country's current development plans.

Furthermore, this research aims to find a way to integrate psycho-social factors affecting victims of development-induced disasters as a critical component of shaping current and future disaster-prone development policies. This study applied Psycho-Social Phenomenology to Social Justice Approach. The findings show how the condition of survivors who are still suffering from post-disaster pain is disclosed. Inadequate disaster response processes, resulting in trauma and significant disruption to survivors' psycho-social aspects. After 15 years of disasters, resilience has yet to emerge. Furthermore, the state's failure to recognize is expected to exacerbate disasters and increase the likelihood of victims of similar disasters in Indonesia.

Relevance to Development Studies

This research is critical in order to understand the impact of the extractives regime's framework. Extractives development regime's obliviousness to the rejection of a few residents in a small town in a developing country proved to be the end of the world's largest methane gas reproduction problem, escalating the climate crisis. On the other hand, the neglect of psychosocial aspects and the experience of community oppression should become an important part of the discussion on various countries' development plans. This study is important because it demonstrates that narration development based solely on Extractives and economic growth has now Bankrupt

Keywords

Lusi Sidoarjo, Extractive, Man-Made Disaster, Psycho-social, Oligarchy

Chapter One: Introduction

This research aims to understand the psychological affect on marginalised communities of man-made disasters that get overlooked by the Indonesian government's current development agendas. Additionally, this research seeks to discover a way to integrate psychosocial factors affecting victims of development-induced disasters as a critical component of shaping current and future development policies in disaster-prone areas.

Development faced Disaster Risk: A Science-Policy Gaps.

Disaster is defined as a sudden event with profound effects, which is frequently used interchangeably with catastrophe. (Olivier Rubin, 2017). In academic discussions, disaster issues have been examined from various perspectives, including mitigation, evacuation, recovery under the broader umbrella of disaster governance issues. Therefore, natural and human-made disasters and related risks must be considered crucial parts of Development policymaking and programming.

Countries that are highly prone to Disasters should have proper and adequate responses and mitigation plans. As stated by UNDP, development should prioritise the protection of people and communities to prevent crisis (UNDP, 2012), because 'Disaster straightly impact to livelihoods, stunts and frequently diminished development progress, and traps people in patterns of crisis leaving' (UNDP, 2012)

Various Disasters frequently ravage Indonesia. From January to April 2021 National Disaster Responses Agency or BNPB reported 17 earthquakes, 90 forest fires, 472 floods, 214 landslides, and 301 Tornados. (BNPB. 2001). The country straddles the so-called "Ring of Fire" in the Pacific Ocean, making it vulnerable to earthquakes, tsunamis, and volcanic eruptions. From the South of Indonesia, this Megathrustzone runs from Myanmar, runs along to the south of Sumatra, Java, and from the centrum of NTT, it runs to Sulawesi. Due to these conditions, Indonesia faces the risk of potential sources of future megathrust earthquakes (S. Widiyantoro, 2020).

Nonetheless, these risks and the disaster are also exacerbated by the interest in the development agenda (BERSIHKANINDONESIA, 2021). Natural Disaster proneness is likely to exacerbate Inmaximising growth. Further, the economy should not be based solely on the value of natural resources without considering the risk of disasters and the vulnerability of people.

This fact is shown by the science-policy gap in Indonesia's Development Agenda. The Indonesian government magnifies disaster risk in the growing number of extractive industry permits (BERSIHKANINDONESIA, 2021). In their report, Bersihkan Indonesia Coalition reveals a significant gap between scientific facts and Development Policy. Development Policies in Indonesia do not consider the hazard and disaster aspects. Priority grants permit extractive industries against the scientific community's advice, which has led to a situation of escalation of disaster risks.

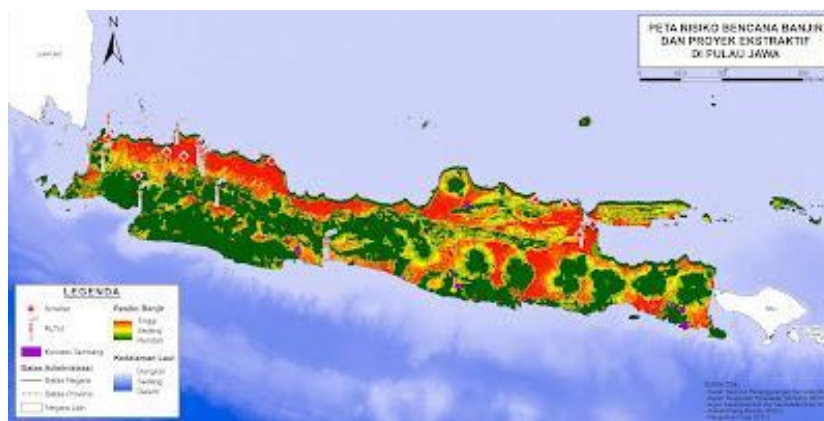
There are numerous mining permits issued by the state in Indonesia, many of which facilitate mining activities in areas with high disaster risks. One hundred thirty-one of them are in earthquake risk areas, with an area of 1.6 million hectares, or the equivalent of half of Belgium (BERSIHKANINDONESIA, 2021). Furthermore, 2,104 mining concessions in Indonesia are located in areas prone to flooding, amounting to a total of 4.5 million hectares,

or the size of Switzerland (BERSIHKANINDONESIA, 2021). Meanwhile, 744 mining concessions are located in areas with high risks of landslides, covering 6,154,830 hectares.

According to #BersihkanIndonesiaCoalition¹ report, these gaps arise due to conflict between the interests of extractive oligarchs and the state. (BERSIHKANINDONESIA, 2021) The interests of this extractive oligarchy are led by "Ijon Politics."² The Mining company expected Elected Candidates to pay back the endorsement through ease the extractive permits (Coalruption, 2019). Coupled with the formation of 45 derivative regulations, the Omnibus Law of the Job Creation Law includes Government Regulation

Map 1

Map of Disaster Vulnerabilities in Java Island



No. 22 of 2021 on Environmental Protection and Management³. It also reveals the face of an elitist, centralised, top-down energy management without the participation and veto of the people. All energy management decisions are monopolised and decided centrally in Jakarta. The Environment capacity of this disaster area is never taken into account. People affected would suffer due to the existence of the energy project.

According to this report the #bersihkanindonesia, Peoples vulnerabilities has been escalated since the mining activities located in earthquakes, tsunamis, and flooding prone areas.(Coalruption, 2019). Samarinda⁴ is caught up in endless conflicts against mining companies. Samarinda Citizens have been facing floods annually due to the lack of water absorption in Samarinda. This annual flood has transformed since 78 per cent of Samarinda's are mining concession. with the large percentage of this concession owned by Toba Bara Sejahtera⁵ (Daton, 2019). Near Samarinda, Sanga-Sanga, a productive Rural area, also faces the same problem. In 2018, landslides destroyed dozens of houses, caused mining activities

¹ #bersihkanindonesia or Clean Indonesia coalition is a civil society organisation that seeks to mobilise the Indonesian public to advocate for changes in energy, economic, and environmental policies.

² Ijon Politics refers to a phenomenon in which a mining company offers some funds for election candidates at the regional and national level to receive extractive permits from those elected (Coalruption, 2019)

³ The laws governing economic handling and risk management of extractive activities in Indonesia have been loosened due to this regulation.

⁴ The capital of East Kalimantan, The centrum of Coal Extractives in Indonesia

⁵this company ow by Republic of Indonesia (Minister of Investment Luhut Binsar Panjaitan) and Kaesang Pangarep (President Jokowi's son)

to close with the resident area (Rahmi, 2019). Both Samarinda and Sanga-Sanga is an example of how people must pay for ecological and livelihoods destruction, which is caused by Ijon Politics (Coalruption, 2019)

Space of Study: The Suffocating Civilisation

In Indonesia, one incident often used as an example of an ongoing industrial disaster is the "LUSI" or Sidoarjo Mud-Flow Disaster. The leading case of this study is the most prolonged ongoing disaster. Resulting from PT Lapindo Brantas, the first bursts of water, gas, oil, and mud appeared in Sidoarjo 15 years ago. Now turned into the world's largest source of methane, the leading contributor to the greenhouse effect, and the worst hydrometeorological disaster in history. "Lusi" cases, a blowout in the concession area of a natural gas mining owned by PT Lapindo Brantas. "Lusi " Sidoarjo cases is a combination of how disaster vis a vis with Local politic Contestation. How chaotic political dynamics made chaos to disaster response and recovery in recent 15 years. These cases showed a chaotic situation both upstream (government dan political dynamics toward disaster responses) downstream (Psycho-social condition of the victims).

Based on previous interviews conducted in 2018 for a research project with survivors, most of the Survivors from Siring Village.⁶ -the epicentre of the disaster- said that They engaged in protests to reject the Lapindo Mine permits based on their awareness about how this concession would escalate the risk of disasters. However, these concessions have continued until this moment, causing a most prolonged industrial catastrophe that needs to be stopped.

After ten years since D-day, most of them still debating whether this Mudflow Natural Disaster or Man-made Disaster. None of the research about this case finds the cause of this ongoing mud flooding (Mohsin, 2017). This situation makes the states unable to decide on proper responses due to this catastrophe. Caused disaster Recovery on "Lusi" Sidoarjo lacked around debates "What the causes of this Catastrophe? Natural Disaster as the claim of Lapindo Brantas Company, or Man-made Disaster as claim 44 geologist who attended the London Geological conference 2008?". These debates make both state actor-non states actors debate around who has the responsibilities? State or Capital actor? Those disputes make the Social Actor and all the victims have no right to Sue Lapindo Brantas as a Non-states actor.

On the other hand, thousands of people lost their land, their social and economic lives. They need immediate response and recovery as soon as possible. However, most of them cannot access proper responses and recovery, as their concerns are not priorities of the state authorities. They still suffer caused they never got proper responses and recovery that affected their Psycho-social condition (Mohsin, 2017).

Nowadays, since none of the research about this case still can find a specific cause of this ongoing mud flooding (Mohsin, 2017), most of them debate whether this Mudflow Natural Disaster or Man-made Disaster. This situation makes the states cannot decide on proper responses to this catastrophe. State reaction to this case was changed by the polarisation of Indonesian leader, in Susilo Bambang Yudhoyono Era, the state hardly argued that this situation was a human-made disaster. Nevertheless, in Jokowi Era (which is also

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known to have a strong relation with Aburizal Bakrie), Natural disasters and Indonesian states will take care of the rest of the village's compensation for this mudflow.

However, even States have committed this event as their responsibility and stated that they would resolve all the "Lusi" case problems by offering Financial settlement and land compensation to the affected communities. The government still does not provide proper responses, and the hazard's disaster risk management has taken 1300 hectares of land (Mohsin, 2017).

The above context and information testify to the government's priorities in pursuing

Figure 1

LUSI SITES



their development agendas, motivated by Ijon politics where scientific advice from the relevant environmental agencies and the affected communities are sidelined, proving a Policy-science gap in the development agenda in Indonesia (BERSIHKANINDONESIA, 2021). In this condition, instead of preparing for disaster mitigation, the Indonesian government continues to issue policies that risk escalating disasters. This situation makes the victims suffer from the worst psycho-social condition alone without help caused the responsibilities are not recognised and appointed yet. These circumstances made some of their experiences and their losses are countless.

Countless Cost of Disaster

As a traumatic event, disaster has various consequences, one of which is the psychological damage on individuals directly or indirectly. Post-traumatic stress disorder (PTSD), depression, anxiety disorders, and drug abuse problems are the most common significant clinical consequences (Bisson & Lewis, 2009).

Psychological debriefing is one of the methods used to mitigate the adverse effects of catastrophes. However, research has shown that this method is ineffective in reducing the adverse impact of disasters (Hobbs, Mayou, Harrison, & Warlock. 1996). Psychological first aid (PFA) or essential psychological support is then employed as an intervention. PFA, like physical first aid or accident first aid, is a response immediately following an occurrence to lessen the detrimental effect of a disaster or traumatic event and enhance the healing process for survivors. PFA can be performed by anyone who has received PFA training due to the limited number of experts, such as psychologists and psychiatrists, who can provide psychological interventions immediately after a disaster or traumatic event. Several studies have been conducted to evaluate the efficiency of psychological first aid. Too far, the bulk

of the research that has attempted to qualify the effectiveness of PFA was a systematic literature review (Bisson & Lewis, 2009; Fox et al., 2012; Dieltjens, 2014). The review's findings indicate that PFA is an initial service that requires follow-up. One drawback of this study is insufficient evidence from descriptive, retrospective or prospective empirical analysis or population-based experimental studies.

Lapindo's lack of recognition suggests there is no sufficient psychological first aid. In this case, disasters leave physical and psychological wounds, especially psychological injuries and issues left behind and missed from the discussion due to their less visible nature. These types of trauma originate directly from the events and the following experiences of humans. These previous traumatic experiences will shape people's responses to subsequent experiences in different ways.

Furthermore, this does not only happen to individuals. Disasters that occur are often intertwined, impacting a group and community (KAR, 2006). Although a Disaster involves a community in a specific geographical location (Anna Włodarczyk, 2017), its consequences often extend to other areas and provoke adverse effects on well-being and mental health. Meanwhile, these mentioned disaster conditions affect communities' psychological conditions as well (KAR, 2006). In her Longitudinal research, KAR reveals how Disasters in the developing world have wide-ranging psycho-social effects, which continue for long periods for many victims. The status of post-disaster morbidity and higher vulnerability of these communities suggests the need to improve disaster preparedness and management and focused attention to psycho-social sequelae. (KAR, 2006)

Industrial Disaster as human-made disasters intertwined with development issues requires an approach beyond the paradigmatic, perspective, and framework of disaster management applied by the Indonesia States so far, which entails dealing with psycho-social effects in disaster responses and governance.

Justification and Relevances

Development Agenda not only directly impacts the environment but also spark Psycho-social problems. However, it is also challenging to provide an ideal psycho-social reconciliation recovery, considering the role of the Development agenda in shaping disaster responses, and arguably, in shaping disasters themselves. Further challenges arise when inappropriate responses to Disasters generate conflict, which affects Psycho-social communities. Moreover, specifically in Indonesian cases, this research needs to answer how the Political dynamic and development agenda trap people in this abusive situation, such as Psycho-social issues among Disaster survivors.

In "Lusi" Sidoarjo Case, conflict grow up caused different ways of recognition and feel towards the actor during this situation also bring Difference's interest. For example, victims thought the disaster did not stop and is still ongoing in the last Focus Group discussion of the "lusi" Sidoarjo and #BersihkanIndonesia Coalition. They want a full recovery, but States and Capital believe that the issues are over and solved went all the cost of Land restitution is paid (Kontras, 2008). However, the rest problem is not addressed well; the Development agenda did not count communities' experiences as a crucial aspect of the policies.

In addition, in the Focus Group Discussion organised by the Advocate Mining Network, Lapindo Mud Crossers are eager to reveal how the psycho-social transitions occur in their communities during disasters. Shown, even 15years of dialogue never solved the problem. The survivor still suffers through their Psycho-social issues, without any actor of

state present to help them. The last interview with Harwati affirmed these.⁷One of the Lapindo survivors in 2018, She revealed how the survivors must face collective trauma and mentioned how mental illness issues increase among survivors.

Although psycho-social issues have been counted as integral to reconstruction after Disaster (Anna Włodarczyk, 2017), the sources of supporting reading and research are still not as much as how disasters impact other aspects outside the psychological aspects of individuals are survivors. Psychological elements are directly related to the recognition process of community disaster knowledge (Sirikantraporn, 2020).

The study of disaster perspective and analysis is closely related to the disaster recognition process. The disaster recognition process also depends on how the psycho-social process that occurs in disaster-affected communities. When we develop an academic analysis of psycho-social problems, this profoundly impacts How Communities change and grow up. (Gallagher, n.d.)

Psycho-social analysis works around how social reality relates to the human psyche or behaviour. The human mind deals with problems of behaviour, affection, and cognition. People perceive reality in at least two ways; one is intuitive and experiential using the Affective function, and the other is analytical and rational using cognitive fiction (Halimahtun M. Khalid, 2012). These two responses impact different behaviour. The affective system is spontaneous. When a person reacts to an event such as a Flood, fire, earthquake, an automatic search and matching with the experiential approach occur. However, formal rational decision-making relies on analytical and cognitive abilities; it happens later after individuals realise their Affect responses and behaviour (Halimahtun M. Khalid, 2012).

Stories from "Lusi" Sidoarjo survivors are great examples of how psycho-social conditions change during a Disaster. On the other hand, this research is essential to fulfilling the recent study about human-made Disasters, which still is not involving the psychological paradigm. This research explains how to handle the most prolonged ongoing disaster without leaving the victims behind (Halimahtun M. Khalid, 2012). This research will also reveal how a Psycho-social condition must be counted as a solid variable to design a Development Policy on High-Risk Disaster Areas.

Research Question

Main questions

The research problem wishes to address in this paper To understand how the marginalised communities are affected psychologically due to man-made industrial disasters overlooked in the Indonesian government's current development agendas. Furthermore, this research aims to find a way to Integrate aspects of psycho-social conditions of the victims of industrial disasters as a critical component in shaping current and future development policies in high-risk disaster areas. This research will analyse the Psycho-social impact of the participants concerning the state's and mining companies disaster responses.

Sub questions

1. How are the marginalised communities being affected psychologically due to man-made industrial disasters?
2. How do the Disaster Responses and Recovery procedures impact the psycho-social experiences of the Communities?

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3. How do disaster response and recovery policies and action plans integrate victims of man-made industrial disasters' psychological needs into consideration

Chapter Two: Methodology

Mapping Psycho-social Affect on Man-Made Disaster

Overall, this study investigates the countless costs of disasters, frequently regarded as indirect losses despite being incredibly dangerous and destructive. Disaster study stated that direct losses are often calculated as measurable impacts or consequences that can calculate empirically, such as collapsed buildings, roads that have been damaged, or lives lost (Smith, 2009). Psycho-social costs such as Disruption of economic, Health effects, and Psychological Affect (shock, anxiety, stress, belligerence, sleep disturbances) are considered indirect losses or Second-order consequences since they are not visible immediately after the Disaster (Smith, 2009). As long as this issue is placed as second-order consequences, most disaster governments will always follow the patterns to neglect these issues as a critical part of Disaster Management. While Keith Smith also mentioned his condition due to a lack of data, Smith stated that data on disaster mortality is frequently more accurate than other types of loss information, such as financial, ecological, or psycho-social costs. (Smith, 2009) In the Indonesia Context, this data limitation will also influence the limited disaster management and response policies. Policies and governance with a limited viewpoint will result in post-disaster derivative problems that are far more difficult and complex to tackle.

Furthermore, the limitations of the methodology may contribute to the problem of restricted access and data in determining psycho-social costs. Disaster research methodology has severe drawbacks, per the Fran H. Norris of the National Center for PTSD and Dartmouth Medical School in his work *Disaster Research Methods: Past Progress and Future Directions*. This limitation is chiefly due to the highly restrictive trajectory. Disaster governance in various Third World countries frequently struggles to discern between the Disaster and the post-disaster period. Knowing the priority scale in disaster response is crucial, and accurately determining which losses are direct or indirect and tangible or intangible. The "Lusi" Sidoarjo Mudflow case is complex, but the complexity of time and the Disaster Politics itself- can provide new insights into the limitations in disaster study methodology.

On the other hand, another discussion towards the Psycho-social effect on Disaster brings some debate around arguing the existence of a universal understanding of human means to naturally react to sadness to adverse events in one's life, such as a Disaster. In contrast, 'when the symptoms of sadness -such as sad feelings, difficulty sleeping, inability to concentrate, reduced appetite- has no apparent cause, universal understanding and diagnosis are at some issues in human functioning, indicating the presence of a depressive disorder'. (Horwitz et al., 2008 p.51) Horwitz's statement highlight distinguishes between psychological disorder and psychological injuries. Their statement affirmed that the psycho-social issues around the "Lusi" Sidoarjo disaster Survivors are not failed to perform their Psychological functions or condition. Moreover, their Psycho-social problem is expected cost and consequences of their unwanted experiences, displacement, improper responses and conflict with State and Lapindo. These circumstances left Psychological injuries toward their collectives memory—mapping the Psycho-social Condition Toward Disaster Circumstances necessary to answer How The Survivor affected Psychologically.

Psycho-Social Phenomenology on Social Justice Approach

This research works on qualitative research and uses an interpretive framework from descriptive data such as notes and deafness, which relates to the revealed meaning (Creswell, 1998). This study needs an approach to suspend all findings' judgments until a more specific basis is established to answer the main question. (Creswell, 1998) This research examines the Psycho-social phenomenon to analyse the psychological experiences of several people towards all the adversities heading them. This method will investigate and seek to describe these problems and understand the meanings and essences of the subject's psycho-social experience. (John W. Creswell, 2018).

According to the previous paragraph, Social Justice Perspectives are critical in distinguishing between Psychological Disease and Psychological Injuries. On the other hand, Howitt stated that non-psychiatrist researchers have a different point of view than psychiatrists or psychologists. (Satel et al., 2008) Howitt also brings this debate to some extent, an expression of anthropology's enduring resistance to the very notion of "human nature,(Satel et al., 2008). Anthropologists of depression thus emphasise cultural uniqueness, which refers to customs, symbols, beliefs, values, and standards that people share in a group but differ among people in different groups. (Robertson, 2008) Such varying cultural rules, according to anthropologists, constitute concepts of normalcy and pathology, making a universal definition of normal sadness or depressive disorder that is rooted in human nature. According to this viewpoint, the disorder is simply whatever a culture defines as deviant or harmful behaviour to responses the sorrow (Satel et al., 2008).is crucial and accurately determiningKnowingOn the other hand, looking into an ecological situation is also crucial to influence psychological conditions. Due to this context, social justice works to give everyone their appropriate due. This approach is expected to help survivors of Disasters define their own experiences, losses, and sadness. The social justice approach will lead this study to engage people and their personal experiences and determine more critical? Clinical intervention, or social intervention.

Based on what Creswell stated, the Social Justice Approach works as a philosophical discussion about the fundamental concepts involved in conducting a Psycho-social phenomenology(Creswell, 1998). The answers are rooted in the survivor's, and other actors' lived experiences. They have both subjective experiences of the phenomenon and unbiased experiences of something in common with other people. Consequently, the subjective-objective perspective is rejected. On Phenomenology method, Psycho-Social issue can answer with Transcendental or psychological phenomenology. This method is less concerned with the researcher'sresearcher's interpretations and more focus to articulating participants' experiences (Creswell, 1998).

Moreover, Creswell cited Moustaka state that whereby researchers as much as possible devote their experiences to a novel perspective on the under scrutiny phenomena. So transcendental means "all newly perceived, as though for the first time" (Moustakas, 1994, p. 34). Moustakas agrees that this phase is rarely attained perfectly (Creswell, 1998). However, researchers can take up this idea in the last chapter by discussing their own experiences with the phenomenon and sharing their judgment.

To analyse the psycho-social experiences of research participants towards phenomenons. All the data will be analysed using specific theme discourse analysis with Social Justice Perspectives Approach. This technique will reveal the "Lusi" Sidoarjo Disaster chronology and dynamics among the actor's experiences. This technique is also helpful for revealing contradictions that occur in various versions of the narrative and text on occasion

(Labov 1972: 360). The analysis will conduct on exploratory orientation. This analysis is more often used in behavioural research than confirmatory analysis (Guest et al., 2012) p.06)

Attitude's component of Psychological Process: Affective - Behavior - Cognitive Approach.

Due to the phenomenological method and approach, the analysis will prove epoche on specific keywords. To Mapping Psycho-social Keywords on the data, the analysis will explore three variables of attitude: affective, behaviour, and cognition (or ABC).

Attitude is an evaluative reaction of favorability or unfavorability toward the attribute of an object. Moreover, thus a potential tendency to react due to the interaction of cognitive, affective, and behavioural components. A person's attitude is a sort of appraisal or a reaction to a stimulus. It signifies that a person's attitude toward an object is a sensation of being supportive or partial favourable to the thing or feeling unsupportive or impartial unfavourable. (Azwar 1995) Attitude shape emotions or actions towards signs or circumstances (Krech & Richard, 1982). Attitude is an individual's defence mechanism over processes of motivation, emotion, perception, and cognition related to the individual's internal and external components (Loudon and Bitta 1993:423) (Berkman and Gilson, 1981). Attitude refers to a person's willingness to react to an object in specific ways. The intended readiness can be defined as a possible predisposition to react in a certain way when confronted with a stimulus that necessitates a response. A person's attitude toward something is composed of various cognitive, affective, and conative elements that work together to shape how they perceive, feel, and act.

What we call "attitude" here refers to how a person reacts to something and whether or not that reaction is positive or negative regarding that object. involves sentiments of like or disliking and influences a person's actions through the attitude component. (Hawkins and Mothersbaugh 2010:392) define attitudes as having three components:

First, Affect; A feeling or emotional reaction to an object is the affective component (Hawkins and Mothersbaugh, 2010:395). The affective component is an evaluative component that's also linked to feelings of pleasure or displeasure. This component is directly tied to the Individual moral code. Affect is drawn to human emotions such as anger, happiness, sadness; it also represents sensory experiences (Halimahtun M. Khalid, 2012). In this study, affection will explore how research participants feel their memory and reality as victims of the Disaster.

Second, Behaviors are overt, observable responses and actions. Whenever an object or action prompts a specific type of response, the behavioural component tends to engage within this response. Behaviour serves as an attitude component in shaping a person's willingness to respond to the attitude object. (Hawkins and Mothersbaugh, 2010:397). Therefore, these are measurable and more easily identified than cognition or affect (Halimahtun M. Khalid, 2012). These affect how research participants thought and analysed their experiences.

Third, cognition encompasses human beliefs, values, decision-making, and perceptions of self, others, and the world (Halimahtun M. Khalid, 2012). Knowledge constitutes the cognitive component. This knowledge will lead to the formation of specific views and opinions regarding the subject's reaction tendencies. (Hawkins and Mothersbaugh, 2010:392). These include efficacy beliefs, perceptions of locus of control, and expectations towards research participants. Moreover, we will look at the keywords, trends, themes, or

ideas about these three kinds of variables in the data that will help outline the analysis (Guest et al., 2012).

Allport in Sarwono, 1997 reveal that attitude has specific objects (people, behaviours, concepts, situations, items) and contains judgements (agree-disagree, likes-dislikes). It means that changes in one aspect of the attitude tend to cause changes in the other aspects. The Psychological process toward Disaster phenomenon will reveal by analysing how they see, recognise and feel about a specific object or phenomenon, such as Disaster Experiences. This data will show a person's behavioural inclinations about their adversities.

Moreover, by analysing the specific keywords mentioned above, we will know how the survivor's Psycho-social aspect is affected. Moreover, how to build good Recommendations to integrate psycho-social factors affecting victims of industrial disasters as a critical component of shaping current and future development policies in disaster-prone areas.

Method

This approach is expected to reveal the complex intertwine between Disaster and psycho-social issues among survivors. This research will explore how psycho-social changes occur in society and relate to the development plan and disaster response during the Lusi Sidoarjo Cases. Later the data collected will be divided into two data: primary data and secondary data.

Primary data

Primary Data was gathered from semi-structured interviews, focus group discussions. According to Creswell on Qualitative Inquiry and Research Design: Choosing Among Five Approaches, their statement in psychological research interviews measures what the research subjects knew and did not know and finds out the research subjects' experiences liked or disliked (Creswell, 2018). In addition to interviews, primary data will also be equipped with an observation method. This method is a validation test and looks at the description of information gaps from the interview results and the psychological reality of the interview subject (Creswell, 2018). In addition, focus group discussions are used to see how collective dialogue is, whether there are similarities in affection, and how to recognise phenomena. (Langdridge, 2007)

Sampling Research Participant

In selecting psychology research subjects, the interviewer must ensure that participants are chosen for the study who require characterisation to fulfil sampling requirements (Creswell, 1998). In this case, we will divide the Sampling requirements into two categories:

General categories and specific categories: 1.) Broad categories have a relevant role and know the chronology of cases from each research participant's perspectives. Moreover, the second is particular categories of those who have been directly affected / survivors of the Lusi Lapindo disaster (survivor) and those who are not directly affected but involved in Crisis circumstances.

List of Research Participants

- Leading Participant: 20 from community Survivor Members with 20 times interview, seven people have two times interview repetition. Who has high dependency or

attachment with Disaster's space (teacher, peasant, trader, e.g.)? The survivor becomes the main informant as an actor who affects by the Disaster.

- Support Participant: 7 people from Advocate Mining Network, Walhi (Friend of the Earth Indonesia), ELSHAM, Ibu Foundation, and three confidential Actors

Secondary Data

This data was gathered to support and validate primary data. This secondary data is expected to provide more comprehensive coverage of this case (Vartanian, 2011). This secondary data will come from statements, media releases, NGO reports, court sentences, and relevant policy documents.

Book Literature : *Kronik Lumpur Lapindo Skandal Bencana Industri Pengeboran Migas, di Sidoarjo* (Chronology of Lapindo Mudflow : A Great Scandal of Extractive Energy Industry) - Paring Waluyo, Bosman Batu Bara

NGO Reports: *Bencana Yang Diundang (Inviting The Disaster)* (Bersihkan Indonesia Coalition), *Ecocide* (Walhi)

Courts Sentences : *Putusan Mahkamah Konstitusi (Supreme Court Sentence) Nomor 83/PUU-XI/2013,*

Media Release and Statements from 1.) Lapindo Bakrie Group Actor: from Mudflow Responses Unit, Bakrie Group. The Lapindo actor organised all the need to interview to explain how Lapindo, as a non-state actor recognised "Lusi" chronological events. Same as interviews with state actors, data from this research participant will reveal contradictions in various versions. 2.) State Actor: BNPB: Badan Nasional Penanggulangan Bencana (Disaster Response management Agency). They are conducting all the state responsibilities due to Disasters, such as mitigation and responses. This data explained how the states recognise and respond to "Lusi" chronological events to reveal contradictions in various versions of the "Lusi" Disaster narrative.

Positionality

Limitation

The researcher conducted this research around Five months (June-October. Working on a topic with psychological aspects requires a long and in-depth research time. Also, to maintain validity and reliability, researcher 'need to spends many hours to collects extensive data. To gain access and establish rapport and developing an "insider" perspective' (Creswell, 1998). Time is essential for this research, and five months is probably too short of revealing 15 years of experience. Moreover, this will affect data quality; based on Creswell statement, 'some requirements needed to conduct time-consuming research as well as criteria for assessing data quality'(Creswell, 2018).

Bias

As mentioned in the Limitation section, developing an "insider" perspective is essential in this research. The researcher, as an outsider, needs to reduce personal bias, political goals, and judgment during this research. Researcher experiences probably affect "the position" of this research writings. Based on Creswell, we need to do reflectivity and separate this into two parts. First, The researcher experiences the phenomenon being explored by the previous

work, knowledge, understanding of this problem, and so forth. The second part is how past experiences shape the researcher's interpretation of the phenomenon. (Creswell, 1998) For me, writing this research is a process of addressing childhood traumas. Every finding makes me suffer flashbacks about the household. The data concerning the stunting rate, the air pollution level made me swear not to bring my son back here. The entire paper may reflect this bias in my writing.

Chapter Three: Mapping The Adversities

“When our Home still Exist.. we never realise this going to happen, we thought it was a chicken farm, the workers say the place closed with elevated zinc as a fence was a farming company!, How could mud come out!?” Amanda - Female, 32yo

Amanda grew up in Porong Village. She was born and raised with her entire extended family, included her Father, Mother, siblings, aunts, uncles, and cousins. Her grandfather built numerous homes within a single roadblock for Amanda's family. They also own and operates a well-known business in this city. This inheritance is a matter of pride and identity for her and her entire family. Her home, which had not been flooded, was still safe within a couple of miles away, on the western side of the dam.

Amanda was studying in Pesantren when she learned of this tragedy. She was unaware of what going on at her home. Then, as the academic year evolved, Amanda chose to return home and continue her education close to her home. During her last academic years in high school, she witnessed the peak of the conflict in Porong, Sidoarjo. The demonstration, The media were spreading rumours about the survivor, also the drastic change in their house. The Mudflow did not wholly drown her house, but her family suffered greatly. Amanda is not alone; she stands alongside more than 90.000 people from 16 villages who lost a great deal due to this catastrophe. The first Interview question asked, was "when the communities realise mining activity in the village?". Surprisingly both Amanda and another participant - none of the participants- realised that the Authorities placed extensive mining activity near them Until the rumour of Mudflow spread out. Before the rumours even reached their ears, their noses had smelled the aroma of Iron and Ammonia.

Time Flies, five years after the Mud explosion, the family realised the air was suffocating them, unsafe water, and the business was doomed. Her family decided to sell their home to a broker appointed by the State and Lapido. The transfer was stressful since, at the time, Lapindo Brantas had set up media framing about how the victims were fortunate above the tragedy, which caused them to get significant profit from the Land Compensation. As a result, some property management businesses are charging substantially higher prices to the victims. While the fact, the State offers shallow value due to the circumstances of the villages and Mudflow.

As a result of this affliction, Amanda family, which would have to live together, must decay. Her Uncle cannot even afford to purchase a new house to relocate. One of his uncles even placed his three children in the care of his siblings because he could not afford a new house. As a result of the forced displacement, Her cousin died of illness two years later, and his Uncle is currently being treated in a psychiatric facility.

“my Sister was introvert person, especially since she should move. her parent moved to her Grand parents house (her Mother home) but the house is too small, so my Sister, ad his brother should separate. her brother live with may family, and she live with my Aunt. but everythings getting worse, she going to sick, then we lost her. but she never sigh, she ever complaint, she face this adversities alone.”

Amanda is not the only one who should take care of her family due to Mental health issues. Dinda-26yo was exhausted after a long day of schoolwork when the teacher announced over the school's loudspeaker that all students should go home. At First, Dinda was overjoyed because she could go home early. Nevertheless, on his way home, he noticed that the road leading to the house was flooded. Her mother had packed up at home, and her grandfather arrived with a car carrier to Evacuate all their stuff. It was the last time she saw her house. Dinda, unlike Amanatia, can leave her late home without causing any significant problems.

Dinda's school and home now are entirely submerged. She and her family never return to the past to relive it. Even though she occasionally hears her Father yelling at her mother, projects his anger he causes losses in their first home. Dinda acknowledges that her Father's connection with the house is more than just a house he lived in; it is the only living memory of the safe room. Every day, Her Father tells her a story about his childhood, rice fields, the fresh air, and pleasant temperature. Dinda noticed that the environmental situation had transformed years after moving to another sub-district. The weather, heat, and sanitation, and the air had simply vanished. However, this does not apply to Dinda's Father. Her Father has faced PTSD and Anxiety Disorder diagnose since the Disaster, and he is easily anxious and afraid to move.

"I am grateful that I can still have memory run and play in the rice fields.. at the least, I have nostalgia of Porong. And I'm lucky that I don't have too many remembrances, is different with my Father.. it is so hard for him.. because my Father grew up there, and my grandparents were buried there as well. And it was difficult for him not to pilgrimare his parents' drowning graves."

Dinda revealed her Father's Anxiety Disorder is relatable with the Memories of Disaster, and it was her Mother suggestion that he seek treatment. For the Dinda Mud Lapindo family, it is much more than an ordinary hydrometeorological phenomenon, -as stated by the government -. Lapindo mudflow is a traumatic memory that her Father strived to obliterate.

When some family is privileged enough to afford a new house ad move in a new place. On the other hand, 1400 families with 5651 people were forced to be displaced into Temporary Camp. The refugees separated into 1,121 families (4,944 lives) in the Porong Baru Market shelter and the remaining 189 families (707 lives) at the Reno Kenongo Village Hall. After mud flooded their residential area, 72 families or approximately 276 residents of Kedung Bendo Village, Porong Sub-district, joined other refugees in Pasar Baru Porong a week later (AntaraNews, 2006). At the time, no one expected that the number of displaced residents would continue to rise steadily until the following year.

"When we moved to Refugee Camps.... At the time, a lot of help came, and despite the uncomfortable conditions and homesickness, we still had hope, I was young and dumb to think it was Nightmare and I will wake up soon," said Nur - Male, 26yo

The refugee camp situation both in Porong Baru Market and Reno Kenongo Village was deplorable. Nur, one of our Research participants, told, there were discussions and

recommendations from residents for Lapindo Brantas management to rent a house for each family until the Mudflow is resolved, to make sure the survivor could live a more decent life. Survivors made this proposal during a meeting between refugees and Former Vice President Jusuf Kalla with Lapindo Brantas Management. Instead, obtaining a positive response, PT Lapindo Brantas chose to compensate each family head with IDR 300,000 (about 18 euros) during the evacuation. (AntaraNews, 2006) This decision was based on their assumption that Lapindo Brantas provided all the people's needs with help from the Military force. For example, each day, these camps needed three-time meals consumption per day. Each day, they require roughly 3 tonnes of rice, eight thousand chicken eggs, twelve thousand salted eggs, 350 kilograms of chicken meat, eight thousand tofu, one tonne of vegetables, ten tanks / 25000 litres of clean water, and 300 boxes of mineral water for drinks. Furthermore, 1,000 litres of kerosene are required to meet the food needs of the refugees in the shelter. (AntaraNews, 2006).

Even though all these needs should provide by Lapindo, a great deal of aid comes for the survivor in the first years. For the survivors, it was the first phase of aid in the refugee camps; at the time, their hope was still rising, and they believed that life would return to normalcy soon after the StateState intervened.

Time Flies, Until October 2006 number of Refugees increased to 25000 lives, and the refugee camps were divided into five areas. Lapindo started to accept People's wishes to give them money to rent a house. They got 500.000 - 5.000.000 IDR for two years. On the other hand, mud keeps blowout. When 25000 people leave the camp, 3300 people come. They are second-wave refugees. They are victims of the Mudflow expanding range.

Nevertheless, the hope started fading when several medical and psychological conditions appeared. According to Dr Nalini SpKJ from Ikatan Dokter Indonesia-IDI (Indonesian Doctors Association), several symptoms initially appeared in the refugees, and other faces refugees began to develop depression. Symptomatic clinical signs began to appear in the Camps. Although the refugees who experienced those were unaware of it. Ikatan Dokter Indonesia-IDI stated how this is an iceberg phenomenon that will significantly impact their quality of life in the future. There were frequent scuffles between refugees, unstable emotions, and many conflicts between husband and wife, which eventually led to the husband abandoning his wife and kids in the refugee camp.

"For me, as a kid, every day was a battle. I grow up hating the words "camps, refugee, and people.... I hate seeing other people, their problem, their sorrow, their privacy.. cause I have (the sorrow) too. I faced my burden and enough. I won't face or just be a bystander of other people. I'm struggling, and enough"

Nur was one of the hundreds of kids of Lapindo who survived during this circumstance. He mentioned that Most of the Children's behaviour also changes. Children who have never been able to express their wishes manifest their displeasure in the form of a more aggressive demeanour. For Nur, the anger never disappears. This feeling grows inside him in the entire interview, showing how all Participants -consistently- project their anger to Bakrie Family.

Turn Disaster into Displacement.

The dispersal of the Amanda, Dinda, and Nur families is a type of internally displaced person (IDP). The word "internal displacement" (ID) (Anonymous) is distinct from the term "refugee" or "refugees." Due to specific conditions, the term ID is used to describe the movement of people from their native region to an area that is still recorded inside one country's border. An internally displaced person (IDP) (Anonymous), as defined by the United Nations High Commissioner for Refugees (UNHCR), has been forced to flee their home due to conflict or Disaster but remains within their nation's borders) (Anonymous). The refugees have been able to survive for more than a year. Both States and Lapindo are stuck in this phase. No More money for The victims lives in Refugee camps. Both of them also did not show any proper plan for the next phase of the Disaster (Hasni, 2019). The regional State gradually expelled these refugees by cutting off power and distributing food to the camp. The survivor faced another degradation from Refugees to homeless. There is no decent compensation in the early years of Disaster. Aburizal Bakrie, as the Owner of Lapindo and Well-Being Minister coordinator, appears in a lot of Media. Tell the stories about his family who suffered due to these circumstances, about his mom who suggested him to take responsibilities as good Me, glorify how he built a new Residential area 'for free'. He framed their family as the most generous wealthy family.

On the other side, it is essential to show The gaps. a Lot of bourgeois families, who owned hectares of land -like Amanda and Dinda-, passed this tragedy less quickly. the situation is not relevant for Nur, as a part of thousand Precarious Families in Porong. Nur has no choice because his family has nothing. No land, no document -all the documents are drowned- and no access to Social Protection. His lives, trauma arent matter since the State and Lapindo only count land and asset ownership as the only losses.

" Even my fathers forced me to follow 'Pocong oath.'⁸To prove that our land certificate is authentic. It is not enough for them to take our lives. They -the states and Lapindo- wish we will surrender after die"

This situation was a form of Gaslighting towards Survivor. The phrase "to gaslight" refers to the act of undermining another person's reality by denying facts, their surroundings, or their feelings. The survivors are manipulated into rejecting their cognition, emotions, and fundamental identity as victims. Gaslighting occurs in this crisis where there is an unequal power dynamic. In that case, States and Lapindo wield power over the media, spreading narration and refusing to acknowledge that afflictions exist.

Aburizal Bakrie asserts that he has completed his obligation to pay for the land and buildings of the Lapindo mudflow survivors. Thus according to Court sentences, PT Lapindo Brantas is bound to pay in mud-affected areas. The State's State's State Revenue and Expenditure Budget are responsible for payments made outside the impacted map region.

⁸ Pocong, also known as the shrouded ghost, is an Indonesian character believed to be the soul of a deceased person trapped in their shroud. In Indonesia, the shroud, also known as 'kain kafan', is the requisite length of cloth used in Muslim burials to wrap the dead body. The dead body is covered in white fabric tied around the head, around the neck, and under the feet'. Indonesians perform Pocong Oaths to prove the truth. A person who lies will be cursed and face pain and die and be Pocong ghost for the rest of their existence, and his soul will be haunting around forever.

He believes the Supreme Court's ruling is correct. Despite his innocence, he has spent a vast sum of money to compensate victims of the Lapindo mudslide.

"Not in terms of remuneration (the payment), but in terms of purchasing and selling assets such as land and buildings, Lapindo is not guilty in this case." Aburizal Bakrie.

In 2013 The Supreme Court granted the victims of the Lapindo mudflow in the affected map area a judicial review. According to the Court Sentence, Article 9 paragraph 1 letter of Law Number 15 of 2013 concerning Amendments to Law Number 19 of 2012 concerning State Revenue and Expenditure Budget for Fiscal Year 2013 violates the Republic of Indonesia's 1945 Constitution. An appeals court ruled that compensation for victims of the Lapindo mudflow should be assured and guaranteed by the government. Moreover, the survivor and Civil Society coalition asked the government to push PT Minarak Lapindo Jaya to pay the residents' compensation as soon as possible.

In July 2015, two years after the verdict. The State and Lapindo reached an important agreement. The State and Lapindo agreed the State would lend PT Lapindo a total of Rp781.68 billion, with a 4.8% loan's annual interest rate. Lapido should pay back the loans in four years from the date of signing. Moreover, if Lapindo Brantas Inc does not pay back the government bailout funds for the Lapindo victims, the government would take ownership of the collateral for land and building assets worth Rp2.797 trillion. Nevertheless, until the time of this research's writing. Lapindo Brantas has never pursued through on the terms of the agreement. As per the results of an audit conducted by the Supreme Audit Agency (BPK), Lapindo Brantas owed the government a total of Rp. 1.91 trillion as of December 31, 2019. This amount is made up of Rp. 773.38 billion in principal debt, Rp. 163.95 billion in interest, and Rp. 981.42 billion in fines. The total loan funds disbursed by the government for the compensation bailout are only Rp. 5 billion, or 0.64 per cent of the total obligations they must repay.

The next concern would be that Lapindo could not solve this disaster management and recovery in one regime. The paradigm of disaster management will change with a new regime and the stuffing of political seats with new members. A new problem emerged in 2015, during the early days of the Joko Widodo regime. RB Dirjen VII, Director General of Agrarian Problems, Land and Space Utilization Per the Agus Widjayanto, the concern has been related to the guarantees used by Lapindo in the agreement to disburse compensation funds for victims in the affected area. The collateral land has the status of Building Use Rights (HGB). The Basic Agrarian Law defines HGB as the right to build and own buildings on other people's or state land for a maximum of 30 years, which these permits can extend for a maximum of 20 years. In other words, Lapindo did not legally own the land. Director of WALHI East Java Rere Kristanto said the case of Lapindo mudflow victims' bailout and settlement was due to the fact that the process was not carried out transparently. He also stated that the current concern is indication that there are parties attempting to eliminate the company's obligations in resolving their responsibilities to the victims of the Lapindo Mudflow. His suspicions probably stems from the problematic and opaque process of allocating bailout funds. For example, in the case of bailout loans with asset collateral. Rere stated that it was erroneous from the beginning. Minarak Lapindo Jaya can only own land in the form of HGU, HGB, use rights, and management rights that are only available for a limited time and will be returned to the State once the time limit expires. This means

that even if they pay compensation for the Lapindo victims' land and then use it as collateral, the land does not belong to them. The StateState owns the collateral land.

This issue proves that there is no proper disaster management paradigm from the start. Survivors should never have to sell and lose their property to receive compensation, which does not even make up for intangible losses. The StateState and Lapindo have never treated this tragedy as a disaster that requires a broad paradigm and forethought of probable outcomes. Lapindo, on either side, recognises this as an agrarian issue that they can solve by grabbing the land.

"I hope for the Government granted special policy for this Mudflow. not based on compensation, and on the sale and buy of our property, but for all of them, both those who claim to be affected and those who are not affected."

Hope is just a wish without realisation. On the other hand, JPNN reported that it determined the status of 15 affected villages and sub-districts. The local administration will combine villages, which are still not drowned in, into one administrative area. The fate of the residents of the 15 villages and sub-districts is thus not veering. Far before they wanted to erase 4 Villages from the District administration, ten of thousands of people suffered from an identity crisis since they could only access social services, health care, and education with old, sterile ID cards. Rani shared her experience of being rejected for Medical treatment at the hospital because her village had vanished. She said that the officer said the hospital would serve her after presuming a new identity.

"Moving is both difficult and expensive. Victims of mud only received compensation at the end of 2015, and some have yet to receive it. They still require old documents to handle the disbursement... This situation are paradox, caused the stated and Lapindo frame us, as lukiest people i this country, caused they make us Rich in one night due the compensation. this framing make we got discrimating is very hard to purchasing new house, the landlord will increase the price caused they thought my family was rich."

Rani also revealed that she had not been involved in the general election since that incident. Due to her loss of identity. Even Rani could not continue her studies because all of her documents were drowned along with her home.

"This situation are paradox, caused the stated and Lapindo frame us, as lukiest people i this country, caused they make us Rich in one night due the compensation. this framing make we got discrimating is very hard to purchasing new house, the landlord will increase the price caused they thought my family was rich."

Rani stayed in the camps for a year. Her family suffered from Financial matters cause Lapindo paid the money in small instalments. It was eroded for his family's living expenses. Until the interview date, Rani Family has still yet to receive the total amount of compensation. For Rani, this is a case of systematic torture perpetrated by the StateState and

Lapindo on all of them. Rani witnessed the State's State's lack of knowledge of risks and disaster response attempts.

Acute Respiratory Infection, Stunting, and Mental Health Issues Among Survivors.

Lack of Finance made many families have no chance to move to a better place. Since the issue of identity lacks access to Social Protection and other activities, the survivor faces multiple burdens of problems such as the quality of their Livelihood. All the Research Participant consistently mention about the Air and Water. The survivor frequently encounters respiratory issues as well as dizziness. Several residents become nauseous if they inhale methane gas for an extended period. There is no doubt about it: Rere, Former Director of Walhi East Java, agreed. Compared to past years, the illness distribution in the three afflicted sub-districts has grown since the Lapindo mudflows in May 2021. For example, the number of ARI patients at the Jabon Health Center has grown by 150 per cent since the Mudflow began. One hundred and seventy more cases per year than before. Also, in Porong District. There were 50,000 cases in 2007, up from an annual average of 20,000 in 2005. As a matter of fact, according to BPS data, there were 46,000 instances of ARI as recently as 2018(Asnawi, 2021).

Based on the Mongabay release, Data from the Sidoarjo Health Office 2020 demonstrates that ARI health complaints prevail compared to other diseases in the three sub-districts that became the location of the mudflow (Jabon, Tanggulangin, and Porong sub-districts). Tanggulangin has the most people (28,713), followed by Jabon (3,667) and Porong (3,166). Complaints of gastric and duodenal ulcers came in second after ARI, with 14,353 in a year. Then there were 13,567 cases of diseases affecting muscle tissue and connective tissue. Then there were 9,891 people with hypertension or high blood pressure. Diabetes melts ranked fifth with 7,562 cases, followed by gastritis (4,914), fibrous observation (4,533), pulp and periphery tissue (3,491), allergic dermatitis and infection (2,581), and eye mucous membrane (1,110). The number of ARI cases in Tanggulangin was significantly higher than in the previous year. According to Tanggulangin data from the Central Statistics Agency's Figures for 2018, 26,321 people were infected with ARI. Over two years, there was an increase of over 2,000 patients (Asnawi, 2021).

Rere believes that the Lapindo mud's toxic chemicals are a contributing factor in this health issue. Polycyclic aromatic hydrocarbons (PAHs), for example, can be found in high concentrations in the mud gas bursts. Following the United Nations, PAHs are considered carcinogenic substances that can lead to cancer over time. Rere also mentioned that scores of local inhabitants were subjected to health examinations to assess the potential health effects of mud exposure(Asnawi, 2021). There will be 20 people in May, and in December of 2020, there will be 25 people. He said that some survivors performed a full thorax picture infection at that time. Based on the prior evaluation, nearly a quarter (22 per cent) of the inhabitants had heart and lung problems. Furthermore, 33% of the population is fat or overweight, and 11% is infected with urethritis.

“You might picture that we are both adults with enormous body proportions, feeling nauseated and exhausted when inhaling the gas that comes out of it, especially toddlers whose bodies are much smaller.”

According to Rere, Anisa -one of the teachers interviewed- affirmed his statement. she stressed how detrimental the effects of gas might be on people, especially toddlers. She said that she saw symptoms of stunting in her students who lived in the Porong area year after year. Anisa is unsure what is causing the elevated stunting cases. In addition, Anisa noticed a gradual decline in students' cognitive abilities throughout her career as a teacher.

Super, the leader of Glagah Arum village, supported Anisa's assertion by revealing that the rate of stunting or child development problems has also increased substantially over the past few years. There were only five stunted children in Glagah Arum before the most recent report from the Porong Health Center in March of 2021. Because of many cases, Glagah Arum Village is the most severely stunted community in the Porong District.

“As time passes, I've noticed that the children's physical and cognitive capacities are deteriorating, making them appear smaller and smaller like a stunted toddler.”

For the record, Sidoarjo had previously been identified as the region in East Java with the most significant number of stunting patients. East Java Health Office (Dinkes) 2019 data of 24,439 youngsters are used in this study.

In the aftermath of the Disaster, how a person gets ripped from the social roots in the one they were nurtured and pushed to move into a new environment -that is significantly more dangerous-, escalating subsequent social conflicts that arise as a result of the tragedy. These disputes range from how family members battle over the distribution of profit from the sale of assets, disruption of place attachments, health problems that cause survivors to suffer from mental health issues.

Rere found a significant increase in the number of people with mental problems (ODGJ) in Porong, which Supeni confirmed via Mongabay. The village of ODGJ began with four persons and eventually grew to 15 people. Four of these people have died, six have recovered, and the rest are currently being treated. Two of the ODGJ are still part of the same family. This issue has never been a source of worry. The government is only concerned with infrastructural issues and the purchase and selling of property. Aside from that, the citizens' mental health has never been compromised, according to Rere Kristanto, Director of the East Java Walhi.

Regrettably, Stated has never validated any of the findings of the Lapido mud related to the well-being of the locals. Head of the Sidoarjo Health Office, Syaf Satriawarma. When contacted by Mongabay, he denied that there had been an increase in health problems for locals in the vicinity of Lapindo, particularly ODGJ in Glagah arum, Porong.

“Where did the information come from? A report should be arriving at the Health Center soon. We will absolutely not continue if it is proven. If the data is from persons, the data cannot be processed in this manner. So, if there is an issue with the village, please inform the Puskesmas. Then we proceed to the field. Where do we get our information if no reports come in?”

Syaf had the same concern about the stunting instance. He claims that the stunting rate in Glagah Arum Village, Porong, is impossible to comprehend since stunting is one of the Health Office's primary concerns(Asnawi, 2021). Thus newborn monitoring is constantly performed. He stated that it is not feasible. Stunting does not appear suddenly. If there had been an improvement, it should have been recognised from the beginning. According to Syaf, babies nutrition and growth issues were most likely accumulative data from prior years. He promised to follow up and clarify(Asnawi, 2021).

"Where does the data originate from if anyone has it? It's absolutely accumulative if it's from the Puskesmas. There is no chance a 30 percent rise will occur in a single year. Stunting is not a one- or two-month endeavor. It's a year-long trip. I need to clarify with the Puskesmas first, and then I'll check it. caused is serene. Since the incident, there have been no reports that mention (about it) "

He generally agrees that mud endangers inhabitants' health, whether from methane gas or heavy metals. As a result, the Health Office has long advised residents not to use healthy water for daily requirements because it is contaminated(Asnawi, 2021). He claimed that the majority of the residents were likewise aware of the situation.

Live with 100 million Tons of Methane.

The facts above regarding the other finding showed how all the research participants had taken issue with the strong gas smell wafted from the Lapindo mudflow's site. It is already well acknowledged that the exploration and exploitation of natural gas (methane) and oil from conventional and unconventional sources offer several potential direct and indirect dangers to human health and well-being.

A recent study about Lusi Sidoarjo was published in the journal Scientific Reports. Lusi, as currently the world's largest active clastic eruption, has been monitored and analysed for several years by an international collaborative study led by Adriano Mazzini, a researcher from the Center for Earth Evolution and Dynamics (CEED) at the University of Oslo, and carried out within the framework of the European Research Council grant LUSI LAB.

The report reveals how these catastrophes bring the most significant methane gas emissions from the Sidoarjo Mudflow or Lapindo Mudflow. This amount is the highest ever recorded from a natural gas manifestation on earth, which indicated that the Lapindo eruption had altered the global map of methane emissions (Mazzini Adriano, 2021). Per the University of Oslo's official website, Natural methane sources such as pure geothermal systems or magmatic volcanoes do not exist in the Lapindo mud's formation process. The study's findings show that this geological phenomenon is triggered by high fluid pressure in sedimentary rocks and high temperatures caused by interactions with surrounding magmatic volcanoes. As a result, Lusi is regarded as the surface manifestation of a hybrid sediment/hydrothermal system. The gas emitted from this area has increased carbon dioxide (CO₂) and methane (CH₄) (Adriano et al. 1, 2021). Mazzini revealed the total amount of methane released over 100 years, a greenhouse gas 28 times more harmful than carbon dioxide. The methane emissions from Lapindo occupy an area of more than seven square kilometres, including the eruption and fracture areas. However, this tragedy's tectonic and hydrothermal systems emit greenhouse gases similar to volcanic emissions, such as nitrogen

dioxide, carbon dioxide, and methane. The level of methane flux -the so-called "emission factor"- typically released by other similar terrestrial natural gas manifestations is supposed to be proportionally consistent with Lusi's emissions (e.g., mud volcanoes, large methane seepage systems). If the total amount is combined in all these locations, the total global output would be around 40-50 million tonnes of methane gas per year (Adriano et al. 1, 2021).

To estimate the amount of gas released into the atmosphere by Lusi, the researchers used a combination of ground-based and satellite measurement techniques. Both techniques produce approximately 100,000 tonnes of methane per year (Asnawi, 2021). The highest methane emission ever measured experimentally for a single natural gas manifestation. As a result of this study, it appears that current estimates of global geological methane emissions (ranging from 100,000 to 5,400,000 tonnes of CH₄ per year) based on radiocarbon in pre-industrial ice cores may be underestimated (Asnawi, 2021). Since the amount of methane released by Lusi alone corresponds to the bare minimum of ice core-based study estimates for the entire earth. Lusi Sidoarjo has spewed 100,000 tons of methane gas into the atmosphere per year over ten years. Lusi has been released far more gas between 2006 and 2011 than from 2015 to 2018. The mudflow rate was undoubtedly tremendous during the early stages of the Lapindo tragedy, reaching 180 thousand cubic meters. This finding matches a previous study report released by Brawijaya University in 2017 that found excessive levels of methane gas pollution in the air (Anton Novenanto, 2018). Methane concentrations were tested as an air pollutant parameter in three locations around the scene. The average methane concentration in Jatirejo Village was 4.60 ppm, Mindi Village was 2.40 ppm, and Siring Barat Village had the highest methane concentration of 15.18 ppm. The investigation revealed that methane concentration in the three regions exceeded the usual quality standard, bringing it to the hazardous zone.

High levels of methane in the atmosphere can reduce the amount of oxygen in the air. Methane Gas Poisoning Exposure risk affect changes in mood, mental confusion, vision loss, memory loss, nausea, vomiting, flushing of the face, and headaches. There may be changes in heart rate and breathing, balance problems, loss of feeling, and even loss of consciousness in severe cases (Asnawi, 2021). If the amount of exposure is high or lasts for an extended time, it could be life-threatening.

When the researcher tried to reach out National Disaster Responses Agency regarding this Finding, they denied that This Event could be categorised as Hydrometeorological-Disaster. Event Supreme Court has Ruled this Event as a Disaster -also to Eliminate Lapindo Responsibilities-, States that, never provide proper responses and further mitigation on expanding risk due to the Porong Situation.

"Because the LUSI case has been transferred to the Natural Resources agency. we cannot handle it unless it is as contextual, which could mean whether it is a collateral hazard or a natural disaster from that point of view, as the definition might be. We need to see together, but first I ask permission to leave this debate because of time constraints" Bnpb State on Live Public discussion with Advocat mining network, Walbi (Indonesian Friend of The Earth, and several Academician)

Reviews and meta-analyses of the links between air pollutants and mental health ad Stunting are needed despite the hazard of a wide range of confounding variables that can be difficult to quantify. Moreover, additional methodological concerns associated with type I error and publication bias show evidence of a positive association between air pollution and

various mental health outcomes across many outcomes, such as Depression, Anxiety disorders, and Suicide attempts (King, 2018). The impacts of air pollution on child linear growth have received little attention compared to the effects of water, sanitation, and hygiene on child linear growth. According to the World Health Organization, 98 per cent of children under the age of five in low- and middle-income countries are exposed to levels of air pollution that exceed the recommended levels (Putri, 2021). However, the increase in stunting rates in Sidoarjo is undoubtedly concerning; these data point to the necessity for future investigations into the link between methane gas pollution towards Mental Health and stunting.

Disruption of Place Attachment.

Amanda, Rani Nur, and Dinda Families were in the form of Disruption of Place Attachment. Gifford and Scannell (in Gifford, 2013) identify place attachment as a cognitive-emotional bond established by an individual to a location. Giuliani (in Scannell, 2010) defines place attachment as a meaningful bond between individuals and their environment. Hernandez (in MS., 2012) defines place attachment as an affective bond that develops between people and specific places where they feel more inclined to stay and feel comfortable and safe. Some researchers define emotional responses towards a place, including place attachment, as a feeling that makes people feel like they are a part of the place and want to stay there.

The chaotic collective depression mentioned above is also a form of Place attachment disruption. Place attachment can happen from the stories of individuals, communities, and nations. Every layer of society has a chance to be heavily tied to a location. The aggregation of memories and experiences of persons in a place accounts for this tie between place and individual. Furthermore, Manzo confirms that it is a prominent location and the experiences formed there generate attachment for individuals. Place attachments, like attachments in general, may suffer separation distress. This place attachment is disrupted by various factors, including the threat of separation or actual estrangement between the person and the place.

According to Scannell, The place attachment framework has three components, according to Gifford and Scannell (in Scannell, 2010).

1. Person

This aspect highlights the humans who have a special bond with the location. It is possible to have an individual interpretation, a group's interpretation, or a combination of the two. (Gifford, 2013). Place attachment occurs in a particular context and refers to the individual's holds special meaning and connection to a place. For example, Dinda starts developing a solid attachment to her former home because of memorable events when she played and ran in the Ricefield. In contrast, Dinda's Father held a different attachment, caused her Father to grow longer in that area, and his loved person -his parent's graves- are left behind.

Moreover, the Person factor can grow up between groups too. Attachment occurs in the context of a group started when the place is meant for a specific group (Hasni, 2019). This interpretation can also differ depending on gender, culture, or religion. Certain groups, for example, Amanatia's Family, are tied to a location where they can preserve their identity (Putri,). It is presumed that this distinction in meaning arises from inheritances, historical events, and experiences shared by certain groups, and these meanings are passed down to the next generation (Scannell, 2010).

2. Psychological Process towards Attitude (ABC)

Affection

The emotional connection between the individual and the place is unavoidable. According to Gifford and Scannell, when someone comes to that place or just thinks about it, the emotions involved in this attachment will anchor positive or negative feelings. For example, how Dinda feels love, happiness, joy, pride, or satisfaction. However, the feelings or emotions involved may be harmful or ambiguous for Dinda's Father since their former home brings pain. Even good memories could bring painful feelings if the location has changed or is no longer being source of happiness. The literature on displacement affirms the notion of how attachment includes an emotional component. Fried (in Scannell, 2010) investigates development projects that force all residents to lose their homes and social spaces due to being forced to relocate. Following that situation, communities began to exhibit signs of sadness as a result of the incident. It also concludes that deep sadness is caused by losing a loved one and losing a meaningful place.

Behaviour

Adhesion to a particular location can be manifested behaviorally as well as emotionally. In the same way that people form attachments with each other, people form attachments with places. A person will visit a place he is emotionally linked to even if the expense is prohibitive. Riemer (in Scannell, 2010) found that when people have been away from their homes for a lengthy time, they strongly desire to return or visit the place. In the rebuilding of the location, the behavioural form of place attachment is also evident. When a tragedy damages a location, people seek to rebuild it as closely as possible to its pre-event StateState rather than improving the site's management plans. Familiarity is more crucial than a new feature (Scannell, 2010). Even when a location has been damaged, people show their devotion to it by reconstructing it. In addition, those who are forced to leave their homes are also likely to undergo other types of rebuilding. Scannell (2010) notes that individuals tend to hunt out new places as close as feasible to their former ones to retain their relationship.

It is confirmed a pattern of refugees who commonly fled in groups. People tend to move from one refugee site to another with many people from their previous homes. Instead, these groups of refugees moved to a decent place, they chose to move near the Lusi sites together with their neighbours live, and the land was in the region around the mud barrier. This phenomenon reveals that persons are attached and inclined to recreate the same home situation as before they were displaced. Regarded as interchangeability, it takes a gander for parallels between the new and old surroundings (Gifford, 2013).

Cognition

Cognitive elements are also present in place attachment. Individuals' memories, beliefs, meaningfulness, and knowledge of a place will make it very important to them personally. According to Gifford and Scannell, the cognition component of place attachment entails the creation and attachment to a meaningful place (in Scannell, 2010). Cognition also facilitates an individual's proximity to a location. Through this memory, the individual imbues the location with meaning and connects it to himself. Fullilove (in Scannell, 2010) explains that the individual must know and organise his environment in detail in his memory to be bound. Proshansky and his colleagues (Scannell, 2010) coined the term "place identity" in this case.

When people describe their similarities to a place, they incorporate cognitive processes about the physical environment (memory, thoughts, values, preferences, categorisation) into their self-definition. Like Brewer's (in Scannell, 2010), social identity is formed when a person seeks a balance of similarities with in-group members and differences with out-group members. The relationship between the individual and the place is also cognitive, rational and will sometimes be entered at the most profound level, namely the definition of a person (Scannell, 2010). The main emphasis on forming an attachment to a place is through three processes: *First*, familiarity, attachment, and identity. When one of these processes is disrupted, all three are started to disrupted. When faced with displacement, these three processes (the attachment process) are disrupted, resulting in the sense of alienation. First Essential for individuals to feel safe and comfortable in a place. A person who has been relocated due to a lack of familiarity will experience a foreign feeling. It has a profound effect on the recipient's mental and physical health after the transfer. The recipient's mental and physical health suffers as a result of this. *Second*, attachments are formed from childhood and are increasingly felt as adults when moving to a new location. When the transfer is coercive or unwanted, this attachment becomes more visible. Because, of course, someone will think about what is missing and how much it means. Many people move to refugee camps or return to their original locations due to the trauma that these places cannot be taken for granted. *Third*, the issue of identity. It is based on the relationship between a location and a person's identity. Place identity is a term that is commonly used. According to Scannell and Gifford, place identity incorporates a person's place into a more significant self-concept (Gifford, 2013). When someone is relocated or evicted from their residence, it is an attempt to uproot them from the identity attached to them and place them in a place outside of their identity. Finally, the individual feels alienated and may even be perceived as "the other" by others and himself. Individuals eventually feel burdened because they must repeat their lives by changing their identity or self-concept in a new location, which can lead to a slew of other psychological severe issues

3. Place

This place's features are classified into two categories: social and physical. Place attachments differ slightly based on the spatial level. Hidalgo and Hernandez (in Scannell, 2010) assessed the social and physical elements at three distinct spatial levels: homes, neighbourhoods, and towns. Place attachment was stronger at the home level than in the city and neighbourhood, and the social dimension was more robust than the physical dimension. However, since social factors influence physical factors, the spatial dimension should consider place attachment. According to Riger and Lavrakas (in Scannell, 2010), social attachment or bondedness comprises social bonds, a sense of belonging to the environment, and intimacy with other people. They say that the length of time a person has lived in a location, the owner of that location, and the individual's intentions to remain to contribute to their sense of place attachment. (Scannell, 2010). It is, however, frequently equated to or conflated with a sense of community or sense of belonging. Kasarda and Janowitz (in Scannell, 2010) define community as a complex structure of friendship and family interactions and formal and informal ties of affiliation, rooted in family life and continuous social norms. Communities are classified into communities founded on shared interests, such as religious communities and communities created by living in the exact physical location. Of course, in this case of place attachment, the community developed due to the resemblance of place is much more meaningful. However, perceived attachment is also reliant on the dimension of the place. Per the definition of place dependence or dependence on place, a location becomes the core of dependence because it provides the facilities or resources that individuals require to sustain

the activities that they need. People who have a solid attachment to a specific location tend to be reluctant to move to a new one.

Coping to Griefness and Trauma Resilience

Grief is cognition and emotional response to loss. Among Research Participant, grief appears as anger, despair, anxiety, chest pain, tiredness, and other symptoms. In general, grief is an instinctive attachment toward a sense of loss (Kozier et al. 2004). Grief is generally tied closely to the loss of something or someone regarded as precious or important. Grieving is a natural human reaction to coping after an enduring loss. Grief is a systemic reaction since a person realizes various aspects of life (physical, mental, intellectual, spiritual, and interpersonal) as a holistic whole to cope with the loss event.

There are many phases to grief, each of which is preceded by a loss, an adjustment, and finally, an acceptance. Grief and sorrow are dynamic physiological and psychological responses to loss that influence the physical, cognitive, behavioral, social, and spiritual aspects. As stated by (Harvey and Weber, 1998), there are two main categories of losses on Lusi Survivor; Tangible and Intangible losses. Tangible loss can be identified by others and can occur due to or in response to a circumstance. Tangible losses can be identified as personal Losses such as Illness, Affection stability, Cognition ability. The second is interpersonal losses, such as how Amanda Lost her Cousin. The third is material loss of a job, leaving a village, changing residence, becoming homeless, or symbolic losses related to discrimination about identity, role redefinition, or reentry adjustment to home culture. Intangible psychological losses include changes in self-worth and the change of Moral code. It shows how Rani has a Fatal Attraction to State since the Catastrophe thought that the state was Irrelevant with her Lives.

Nur's Families for example, who is staying in Camp and need to move soon, suffers actual loss in dread toward displacement. His loss is something that he cannot articulate to others. Dinda's Fathers, who move to a new home, may experience a loss of Place Attachment. Nevertheless, the losses turn into anger and anxiety, causing him not to tell people about his feeling. According to (Kozier et al. 2004), the loss can be led by a wide variety of causes, including losing pieces of self-identity, like how the victim loses their identity as part of the Porong Community. Even if the loss is not visible to others, losing a component of ourselves will alter a person's self-image.

Above that fact, Lusi Sidoarjo represents more than just a loss of land and financial riches. The community lost their social assets formed in their previous place, and they were forced to be expelled, evacuated, and disrupt the existing social order. Meanwhile, the community has created a social order where numerous histories, activities, and significant events in their houses have been passed down over many generations. According to Thompson (in Devine-Wright, 2014), humans spend their lives in specific areas and develop complex and crucial emotional attachments along with those regions thru exchange and interrelationships. Their emotional link was, of course, a threat by disaster's loss of living space. However, because this is often latent and opaque, many stakeholders are oblivious of this condition. All the grief and Circumstances already forced people into the enormous Disruption of Lives (Kozier et al. 2004).

Moreover, all the correspondences and stories came from people who endured, were resilient, and survived in the Battle of Losses.

Chapter Four: Encounter The Gaps

Since the layer of problem among survivor escalate during the circumstances. It is important to find of how to make everything easier for them. Start to recognise all the gaps, ad reduce them with proper Development plan.

Seek Resilience Among Survivor Factor

It is also essential to look at the resilience factors among participants since they have all been survivors of this case for 15 years. A common concept is the ability to overcome adversity, troubles also known as successful coping(Wilks et al., 2020). according to Wilks, To understand the resilience factor, three components of resilience are needed to explain; risk, a protective factor, and attitude outcome signalling resilience. Each of these components is also mirrored in the Finding (Wilks et al., 2020). The participant correspondence shows a significant relationship between risk and a resilient result.

Risk Factors; Risk Resilience literature refers to any state that raises the possibility of a problem or the genesis of a problem as a risk or risk factor. Regarding risk, the term "adverse event" has various synonyms such as "burden," "negative," "trouble," "difficult," and "stress."(Wilks et al., 2020) A person's desire to avoid danger is understandable, given the definition Risk Factor is caused by Periods of crisis. The State lapses into lethargy and plays clueless disaster responses, how Lapindo utilises media narrative to trick their victims. And how the families fall apart because of a fight over displacement and other adversities. Not only social factors, but The environment is also indeed a risk factor (Wilks et al., 2020). This linkage between air pollution and the risk of mental illness seems "modest, but significant(Denis Campbell, 2021).

Protective factor, Wilks Cites how Michael Rutter (1990) recognised protective factors as assets within an individual's and conditions in the surrounding environment linked to self-sufficiency(Wilks et al., 2020). Resilience can be aided or enhanced by protective elements, which aren't always present (Moles et al., 2020). To be considered protective, a trait or circumstance must (a) decrease an individual's exposure to risk, (b) lessen the subsequent adverse reactions that follow risk, and (c) boost self-esteem and personal efficacy through accomplishment(Wilks et al., 2020). Most of the participants in these categories have nothing to protect them. All the aspect that potentially became Protective factor Among survivors appears as a risk factor.

Resilience Attitude; is "the positive pole of the pervasive phenomena of individual response to stress and adversity,"(Wilks et al., 2020). It has been observed and measured in several ways that this positive pole of response to adversity. The majority of participants exhibit a level of toughness and resilience in the face of adversity on the outside. They contemplated unwrapping each adversity and agony a few at a time(Moles et al., 2020). On the other hand, they openly discuss their mental health issues, pain, and inability to manage their emotions: Wilks distinct resilience and adaptive coping (Kozu and Gibson, 2020). Think

of these concepts as chronologically related (Wilks & Vonk, 2008). Most of Lapindo Survivor Coping is a short-term strength, which means it is used to deal with a stressful situation only while it is occurring. Even until now, they still cope with the adversities.

On the other hand, resilience is a product of good coping with adversity rather than an inherent strength (Wilks et al., 2020). When the interview led to the Resilience factor discussion, most participants who experienced staying in a refugee camp denied their existence now linked their resilience. Since they suffer in precarious conditions, they consistently show that their surviving stories arise because they have no choice in that phase. The adversities still appear behind them. They are still in the process to build their Protective factor, enduring the risk and reaching resilience.

Lusi Sidoarjo represents more than just a loss of land and financial riches. As a result of being forced to flee and disrupt the social order that had developed in their previous location, the community had to dismantle the social assets that it had built up. In the meantime, the community created a social order (Moles et al., 2020), which has been passed down through many generations and contains numerous histories, activities, and significant events. According to Thompson (in Devine-Wright, 2014), humans spend their lives in specific areas and develop complex and crucial emotional attachments along with those regions through exchange and interrelationships. Their emotional link was, of course, a threat by Disaster's loss of living space. However, because this is often latent and opaque, many stakeholders are oblivious of this condition. All the grief and Circumstances already forced people into enormous Disruption of Lives.

Pacing with other Disaster Risks.

In Sidoarjo, there is no more land, water, or decent air left for people. The authorities never raised the fate of Lusi Sidoarjo's survivor again. Since the frequency of other hydrometeorological disasters in other cities increase. -even as I was writing this thesis, I was dealing with flash floods that cut off access to water and electricity at home- Indonesia might well continue to be struck by a wide range of disasters in 2021 (Mazzini Adriano, 2021). For example, the massive floods that struck South Kalimantan earlier this year, and more recently, a combination of floods, landslides, and the impact of climate change in East Nusa Tenggara as a result of tropical cyclones. (Putri, 2021) Numerous disasters are directly or indirectly linked to the presence and impact of extractive industry investment operations on-site by the public. The stories of the recovery process from all the survivors disappear with the comes of other disaster stories. Instead of recognising the flaws in the development paradigm that has prevailed thus far, the Indonesian government has blamed extreme rainfall, the tectonic structure, or told that everything is just God fate.

Additionally, as mentioned in the Introduction, people are well-known that extractive industry investment operations harm the environment in the areas where they operate. Every stakeholder in this issue must state that the government and the extractive industry are concealing the increasing number of disasters. From the start, there was no recognition of the conditions that developed as indicators of a genuine climate crisis, such as a vicious circle exacerbated by carbon emissions from the extractive industries. Rather than focusing on this issue, the Minister of Environment and Forestry brought a decolonial narrative to affirm Regime Development led by Joko Widodo.

" Additionally, we reject the use of deforestation terminology that is out of step with current conditions in Indonesia. Because a tree is cut behind a house in Europe, for example, it may fall into this category and be assessed as deforestation. This is unquestionably not the case in Indonesia. Forcing Indonesia to achieve zero deforestation by 2030 is clearly unfair and oppressive. Because each country has its own unique list of important issues, which are shielded by the Basic Law. If the concept is that every deforestation occurs, Then what about the individual who live in the middle of jungles? Should they be isolated caused we cannot build a road for them for the sake of deforestation? "

9

Siti stated that several developed countries had achieved full development before 1980. Most of this country reaped the benefits of their development now. In contrast to Indonesia, they can be on track to achieve net-zero emissions by 2050, which has yet to reach the pinnacle of national development. Siti explained that many roads in Kalimantan and Sumatra remain closed due to their route through forest areas. Indeed, there are over 34,000 villages located within the forest and its environs. As a result, Siti stated that requiring Indonesia to achieve zero deforestation is unjust.

"The enormous development of President Jokowi's reign should not be stalled for the sake of carbon emissions or deforestation." Siti Nurbaya Bakar - Minister of Environment and Forestry

The issue of deforestation becomes critical because Lapindo is now the world's largest producer of methane greenhouse gas (GHG) that contributes to global warming. This gas is regarded as a pollutant rather than an energy source. At elevated levels, methane gas can deplete the oxygen in the earth's atmosphere.

The enormous methane emissions from the Lapindo eruption would undoubtedly increase the natural greenhouse effect and increase global temperatures. This condition contributes to the severity of the climate crisis. The situation is an alarm for Southeast Asia and the global community; the rate of disaster incidence has rapidly increased in the last ten years.) (Anonymous) As a result of the escalating climate change problem, which has also increased dramatically in the last 20 years, underdeveloped countries are most severely impacted by this trend (Mazzini, 2021). Whenever a statistic is used, hydrometeorological disasters account for around 76 per cent of all disasters. Droughts, floods, storms, forest fires, el Nino, la Nina, and landslides are examples of disasters (Putri, 2021). Another clue that a hydrometeorological crisis has worsened is a shift in the parameters of rainfall, humidity, temperature, and wind speed.

Walhi Report also supported Mazzini's findings in the East Java Forum for the environment's release (Walhi). East Java has seen 2676 hydrometeorological disasters over the past five years, according to the official website of the Indonesian Meteorological Agency (BNPB). The bulk of disasters in this region were caused by strong winds and flooding, with 970 and 743 instances, respectively (Putri, 2021). Then there were 514 landslides, 361 forest fires, 66 droughts, and 22 tidal waves, to list a few disasters. Walhi collects and analyses data from the East Java Regional Disaster Management Agency yearly (BPBD) (Putri, 2021). As a result, the frequency of natural disasters continues to rise every year. In 2013, there were

⁹ The statement posted on her official Twitter account @SitiNurbayaLHK 3/11/2021

233 disaster occurrences, which jumped to 297 in 2015. The following year (2016), the case count increased to 404, then 434 cases in 2017, 455 occurrences in 2018, and a sharp increase in 2019 to 620 events (Putri, 2021).

A reassessment of global methane emissions is required and critical for better assessing anthropogenic gas emissions, such as those from the oil industry, and overall atmospheric methane emissions, considering Lusi's total methane gas production is equal to the maximum global emission level. Reduced methane emissions are the most powerful way to slow the pace of climate change over the next 25 years. In Indonesia, the Minister of Environment and Forestry, led by Siti, reduces methane gas emissions through forest conservation efforts. If Sidoarjo cannot recover, the Indonesian government should protect the remaining disaster-prone areas to avoid more victims and Disruption of Lives.

If the Indonesian State gives up on these dead circumstances, we will face the same Disaster, more and more. The community will face adversities again. Caused, who is going to help? If the States have no recognising paradigm about Disaster Management.

Chapter Five: Conclusion

Summaries

Findings from the investigation show how the development agenda was ultimately responsible for the disaster's aggravation. The participants' grief, losses, and sorrow were drawn the fact of science-policy through Indonesia's Development Agenda. However, the oligarchy's power in Indonesia led to disaster responses, which overlooked the hazards, vulnerabilities, and human aspects of the situation.

As a result, Lusi Sidoarjo is more than just a loss of land and financial riches; it symbolizes how the state failed to protect people in front of the Development narrative. As they were forced to flee and disrupt the social order that had developed in their previous location, the community had to dismantle the social assets that they had built up there. Adversities that arise around the loss of community have established and threatened their emotional ties. Moreover, the form of the lost which hidden and opaque. Many stakeholders are unaware. People's lives have already been shattered by all the grief and adversity they have faced.

In this phase rather to take action, or established proper disaster responses, the State claim that The enormous development of President Jokowi's reign should not be stalled for the sake of environmental concern. trap people into dead circumstances.

Recommendation for Future Research

The risk of mental illness over an Extractive-induced disaster seems "modest, but significant. Quantitative Research work with big data to integrate the number of people affected by Lusi Sidoarjo should start since human development is a crucial aspect. This research may not draw the entire Psychosocial losses, but it is still important to seek an actual number of victims.

A reassessment of global methane emissions is required and critical for better assessing the danger of LUSI gas emissions since total methane gas production is equal to the maximum global emission level. Another hand how Reduced methane emissions are the most powerful way to slow the pace of climate change over the next 25 years. In Indonesia, the Minister of Environment and Forestry, led by Siti, reduces methane gas emissions through forest conservation efforts. If Sidoarjo cannot recover, the Indonesian government should start mapping the relation between Hydrometeorological disaster around this country, escalation of Methane emission issue to protect the remaining disaster-prone areas to avoid more victims and Disruption of Lives.

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Appendices 1

SEMI-STRUCTURE INTERVIEW GUIDE

Interview Question Guideline, This list will guide the researcher to proposed question for Research Participant..

- a. Research Participant. Question Guide
 - i. Ask about How this event started? and how is it going?
 - ii. Ask about their social living conditions, family, neighbor, and relative who stay near them. What still stays? What is gone?
 - iii. Ask them to tell about their feeling, how the personal development around this phenomenon? Does something change? Or still, nothing changes?
 - iv. Ask about what they missed? Social life? Domestic life? Economic life? Or the environment?
 - v. Ask them about what they know about the antecedent of this catastrophe
 - vi. How their opinion about the responses? What should the state do? What should Lapindo Brantas Company do?
 - vii. Ask about the psychological condition of them and their family. Did this affect their condition?
 - viii. Did they have some occupation problem since the disaster started? (sleep, eat, work, and other behavior conditions?)
 - ix. Ask about how their opinion, about last Court sentence about all this condition is Natural Disaster?
 - x. The rest question will following to triangulating data based on Interview with Supporting Key Informant.
- b. Supporting Key Information.
 - i. State and Disaster responses Local Agencies
 1. Ask about the chronology of the disaster?
 2. Ask about the basic standard responses of government?
 3. Ask about the antecedent of this catastrophe? Find if some political agencies behind the court sentences about the antecedent.
 4. Ask the possibilities if the key participant not agree about the antecedent of the disaster as Natural disaster.
 5. Ask about the plan to stop the mudflow?
 6. Ask about the recovery plan of the disaster?
 7. Ask about the International standard of Disaster responses. Did they do the standard?
 8. Ask their opinion about psychosocial condition of the survivor.
 9. Ask their opinion about some occupation problem among survivor.

10. Ask about how their opinion, about last Court sentence about all this condition is Natural Disaster?
11. The rest question will follow the answer
- ii. Lapindo's Disaster Responses Agencies
 1. Ask about the chronology of the disaster?
 2. Ask about when they attend the Geology conferences 2008 in London. What they thought about the debate between Natural disaster, and Man-made disaster?
 3. Ask about what their opinion about the compensation to the People.
 4. Ask the possibilities if the key participant not agree about the antecedent of the disaster as Natural disaster.
 5. Ask about did they involve to the state plan to stop the mudflow?
 6. Ask their opinion about psychosocial condition of the survivor.
 7. Ask their opinion about some occupation problem among survivor.
 8. The rest question will follow the answer
- iii. NGO and Humanitarian Actor
 1. Ask about the chronology of the disaster?
 2. Ask about the International standard of Disaster responses. Did they do the standard of responses?
 3. Ask about the antecedent of this catastrophe? Find if some political agencies behind the court sentences about the antecedent.
 4. Ask about their Research about the development agenda behind this event?
 5. How the Disaster Responses and Recovery procedures impact the psychosocial experiences of the Communities?
 6. Ask about their finding in #bersihkanIndonesia Coallition
 7. Ask about what they think should did the responsibilities
 8. The rest question will follow the answer

Appendices 2

Data Collection Timeline

Timeline	Participant	Place	Noted
30 May	Amada	zoom	
2 June	Nur	Porong	
3 June	Nur - Rani	Porong	
4 June	Riska	Porong	
4 June	Bambang	Porong	
8 June	Rere	zoom	
10 August	FGD Survivor	zoom	
17 June	Amanda	zoom	
17 June	Dinda	zoom	
17 June	Meike	zoom	
22 June	Dinda	zoom	
23 June	FGD Survivor	zoom	
23 June	Dinda	zoom	
24 June	FGD JATAM	zoom	
27 June	FGD ELsham	zoom	
27 June	Angga Ibu Foundation	zoom	
28 July	Amanda	zoom	
3 August	FGD Survivor	zoom	
4 August	FGD Survivor	zoom	
5 August	FGD Survivor	zoom	
July	Dinda	zoom	
31 Oct	Nur	zoom	
31 Oct	Rani	zoom	
31 Oct	Rani	zoom	
31 Oct	Dinda	zoom	
31 Oct	Amanda	zoom	

Anonymous Internal displacement: A development challenge with a humanitarian face | United Nations Development Programme. Available at: <https://www.undp.org/blog/internal-displacement-development-challenge-humanitarian-face> [Accessed Nov 21,].

Anton Novenanto. 2018. MANUSIA DAN TANAH: KEHILANGAN DAN KOMPENSASI DALAM KASUS LAPINDO. *BHUMI: Jurnal Agraria Dan Pertanian*, 1(1), pp.1-11. 10.31292/jb.v1i1.37 Available at: <https://explore.openaire.eu/search/publication?articleId=doajarticles::a2bd7530b54b50c34916dc09d8b73b14>

The paper is trying to discuss on how land forms social relation and what happens when the relation is forced to be ended. Two types of social relationship will be discussed. They are human-human and human-land relationship. The two relations are getting more sophisticated due to the lost of land. Based on Lapindo case, the discussion on how the compensation is given to those undergoing the lost of land. This causes a new problem. There is a unique relation between man and his land- that is not only the relation on economic value but also on cultural value. This paper, later on, is offering the agrarian reflective thinking on the lost of land and its compensation.

Keywords: land, compensation, lost, sense of belongs, Lapindo case

Abstrak: Artikel ini membahas bagaimana tanah membentuk relasi sosial dan apa yang terjadi bila relasi itu diputus paksa. Artikel ini mengangkat dua jenis relasi sosial, yaitu relasi antar-aktor manusia dan antara manusia dengan tanah. Kedua relasi tersebut semakin kompleks seiring dengan hilangnya tanah secara paksa. Berangkat dari kasus Lapindo, artikel ini mendiskusikan bagaimana “kompensasi” yang diterapkan untuk mengganti “kehilangan” yang dialami manusia justru memunculkan permasalahan baru.

Argumen yang diangkat sangat umum, bahwa relasi manusia dengan tanahnya sangat unik karena pada tanah manusia tidak hanya melekatkan nilai ekonomi tapi juga nilai sosial dan budaya. Dengan demikian, artikel ini hendak menawarkan bahan refleksi bagi studi agraria untuk memikirkan kembali tentang konsep “kehilangan” dan “kompensasi” atas tanah.

Kata kunci: tanah, kompensasi, kehilangan, rasa memiliki, kasus Lapindo.

Asnawi. 2021. 15 Tahun Lumpur Lapindo: dari Masalah Kesehatan sampai Gangguan Tumbuh Kembang Anak. Available at: <https://www.mongabay.co.id/2021/05/30/15-tahun-lumpur-lapindo-dari-masalah-kesehatan-sampai-gangguan-tumbuh-kembang-anak/> [Accessed Nov 19,].

Kozu, S. and Gibson, A., 2020. Psychological Effects of Natural Disaster: Traumatic Events and Losses at Different Disaster Stages. In: Anonymous The Intersection of Trauma and Disaster Behavioral Health. Cham: Springer International Publishing. pp. 85-101. 10.1007/978-3-030-51525-6_6 Available at: http://link.springer.com/10.1007/978-3-030-51525-6_6 [Accessed Nov 19, 2021].

Communities across the globe face unprecedented environmental challenges such as natural disasters, influenced by factors such as climate change and an increasing global population. Given that disasters frequently result in loss and tragedy, this chapter describes the phenomenon of traumatic grief post-disaster. Traumatic grief is the bereavement profession’s way of defining grief thoughts and reactions that may be beyond the scope of normal grief reactions in intensity and duration, because, often, loss and tragedy occurred as a result of a traumatic event. Consequently, treating people suffering from traumatic grief can be challenging. A sudden bereavement, such as in the case of a disaster, is more likely to result in traumatic grief reactions than an expected bereavement. In this chapter, first, we will discuss the traumatic impact of a

disaster event or events. Second, we review the evidence for traumatic grief interventions across the lifespan. Third, we highlight a series of community-based programs to support grieving children, adults, and families post-disaster. To advance our treatment of traumatic grief, and to adequately respond to the well-being needs of those affected by disaster events, it is advantageous to periodically review progress and identify current gaps of unmet needs.

Mazzini Adriano. 2021. Relevant methane emission to the atmosphere from a geological gas manifestation. *Scientific Reports*, 11(1), .

Moles, A., Birch, T., Chan, Y.L., Yang, D. et al., 2020. Community Vulnerabilities and Wellbeing after Disaster. In: Anonymous The Intersection of Trauma and Disaster Behavioral Health. Cham: Springer International Publishing. pp. 247-269. 10.1007/978-3-030-51525-6_15 Available at: http://link.springer.com/10.1007/978-3-030-51525-6_15 [Accessed Nov 19, 2021].

Environmental factors affect recovery at both the individual and community level after a catastrophic disaster. In this chapter, we present an innovative index of community wellbeing based on analyses of archival data at the census tract level to quantify the human impact of the 2016 flooding for residents of three parishes (counties) in south Louisiana. An ecological systems perspective drawn from the disaster research literature is reviewed briefly to provide a context for addressing the psychosocial consequences of environmental flooding and property loss. We describe the core elements of the index of community wellbeing: community stress, economic health, environmental health (built and natural environments), and public health and safety. Implications of these data for policy strategies to lessen behavioral health challenges and mitigate adversity after disaster are discussed.

Putri, A.W. 2021. Semburan Lumpur Lapindo Jadi Bencana Metana Terbesar di Bumi. Available at: <https://tirto.id/semburan-lumpur-lapindo-jadi-bencana-metana-terbesar-di-bumi-gjRt> [Accessed Oct 19,].

Wilks, S.E., Choate, S.E., Brown, S.C., Du, X. et al., 2020. Overview on Trauma and Resilience. In: Anonymous The Intersection of Trauma and Disaster Behavioral Health. Cham: Springer International Publishing. pp. 9-25. 10.1007/978-3-030-51525-6_2 Available at: http://link.springer.com/10.1007/978-3-030-51525-6_2 [Accessed Nov 19, 2021].

“Resilience after trauma is one of the most compelling phenomena in contemporary traumatic stress research” (Nugent et al., *European Journal of Psychotraumatology* 5, 2014), para. 1). Indeed, resilience is compelling. The health practitioner may view patient or client resilience as unexpected strength amid inner turmoil or environmental chaos. The health researcher or academic may observe resilience as one’s ability to survive amid the negative forces related to physiological, cognitive, or emotional trauma. Regardless of perspective, resilience is appreciated by most as something positive, some phenomena that offers the ability to bounce back during hard times (Tugade and Fredrickson, *Journal of Personality & Social Psychology* 86:320–333, 2004). To understand the value of resilience to health and well-being, especially as it relates to trauma, we must understand it at the basic level. Accordingly, the purpose of

this chapter is to provide a foundational understanding of these constructs: resilience and trauma. They are used frequently in varying roles – independent and outcome variables – in disaster research. Trauma-focused research with resilience outcomes is gaining ground in health literature. Therefore, we find it necessary and compelling to provide conceptual clarity to these constructs, distinctly and connectedly. Later, this chapter provides a brief overview of these constructs through the lens of behavioral health.