A POLICY IMPLEMENTATION ON PERMANENT HOUSING PROJECT IN DISASTER-AFFECTED AREAS IN CENTRAL SULAWESI, INDONESIA

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IN
INTERNATIONAL DEVELOPMENT

SCHOOL OF SOCIAL INNOVATION
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ABSTRACT

Understanding the increasing trend of disasters, exposure to the economy and the people are getting more massive. The world has committed to finding more effective ways to reduce human, economic, and material losses from disasters. Center for Research and Epidemiology of Disasters has noted Indonesia as the state with the highest number of deaths in 2018, with 4,535 people died. Additionally, the Indonesia Disaster Management Agency confirming the inclining record of disaster occurrence lately. The Indonesian government continuously strives to reduce the impact of disasters on people's lives and assets through implementing disaster risk reduction, or interchangeably with disaster risk management. The international organization and communities encourage disaster risk reduction, such as the inclusion in the current disaster risk reduction ambition: Sendai Framework 2015-2030. It implements the concept of build back better to achieve disaster resilience.

The rehabilitation and reconstruction program in Central Sulawesi has different circumstances with the precedent in NAD-Nias, although using the same method (Top-Down and Bottom-Up Approach), but somehow facing almost similar challenges.

Meanwhile, it uses the opposite method with the Yogyakarta-Central Java as the best practice in using the community-based (Bottom-Up Approach). The legal basis for Central Sulawesi does not regulate the community-based in implementing rehabilitation and reconstruction program like the precedent, but more like centralized on the Ministry of Public Work and Housing instead (Top-Down Approach). However, as written in the Indonesian constitution, the main guideline for rehabilitation and reconstruction acknowledges decentralization of power from central to local government. It mentions two schemes to implement the rehabilitation and reconstruction program, that is community-based and contractual schemes.

This research examines an effective policy implementation approach in housing rehabilitation and reconstruction in Indonesia. Through qualitative research, performing documentary research through data collection from the Disaster Management Task Force for Central Sulawesi, it examines the implementation style of rehabilitation and reconstruction program in permanent housing, the contribution of the implementation style in achieving disaster resilience, and the challenges in the implementation process to achieve disaster resilience in Central Sulawesi.

Using public policy theory, on policy implementation, and disaster resilience, the research concluded that the rehabilitation and reconstruction in Central Sulawesi uses a combination of Top-Down and Bottom-Up Approaches. The approaches help to generate lessons learned, awareness, and improvement in preparing and making Central Sulawesi resilient towards future disasters. However, the use of the two approaches still needs to deal with obstacles and challenges in land acquisition, social issues, and design and planning.

Keywords: Public Policy, Disaster Management, Indonesia

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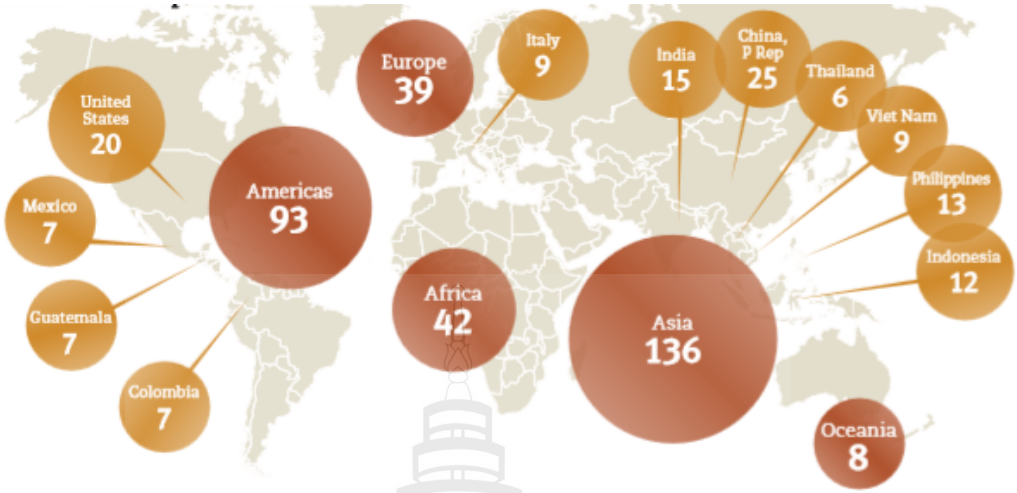
INTRODUCTION

1.1 Background

The Centre for Research and Epidemiology of Disasters (CRED) reported that between 1998 and 2017, disasters caused by climate-related and geophysical have killed approximately 1.3 million people and around 4.4 billion people affected (Wallemacq & House, 2018). In 2017 the world has been affected by 335 disaster occurrences and placed Asia as the hardest hit continent with 136 disaster occurrences (Figure 1.1) (Below & Wallemacq, 2018). The trend of disaster occurrences, 91 percent dominated by climatological types of disasters like floods, storms, extreme temperatures, droughts, and wildfire; while earthquake and tsunami remain as the major cause of fatalities (Wallemacq & House, 2018). Asia has suffered from 44 percent of the total world's disaster, 70 percent of the total affected people, and 58 percent of the total deaths (Below & Wallemacq, 2018).

The CRED also released the data showing that overall, there were 95.6 million people affected, causing 9,697 people death and cost the economy amounted to US$335 billion in 2017 (Below & Wallemacq, 2018). Asia also became the most affected continent in terms of the death toll and economic loss with a total of 69.5 percent of the world's share. America became the second world's most affected continent by disaster with 16.8 percent followed by Africa, while Europe and Oceania share the same numbers as the fourth most affected. In terms of the death toll, Africa with 20.6 percent become the second-largest share following Asia. While America is third (17.9), Europe (3.4), and Oceania (0.1) (Figure 1.2) (Below & Wallemacq, 2018).

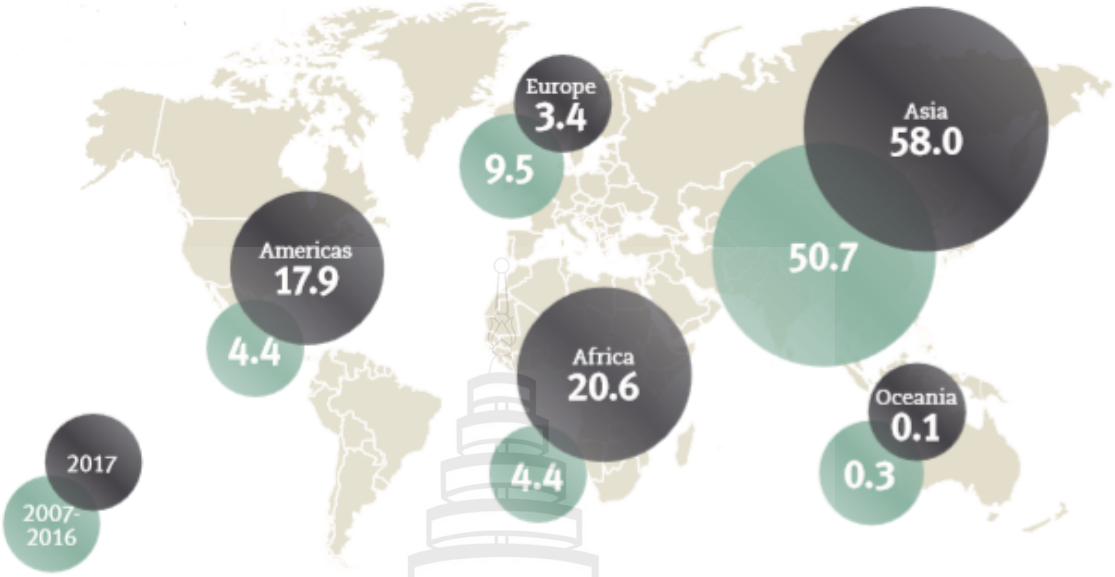


Source Below and Wallemacq (2018)

Figure 1.1 The Number of Disasters by Continent and the Top 10 Countries in 2017

Furthermore, in 2018 there were 281 climatological and geophysical disaster occurrences around the globe which caused 10,733 people killed and more than 60 million other people to remain affected by natural hazards (Centre for Research and Epidemiology of Disasters [CRED] & United Nations International Strategy for Disaster Reduction [UNISDR], 2019). However, earthquakes, tsunamis, and volcanic hazards still became the deadliest hazards that have cost more lives than any other type of hazard. These hazards have caused 181 people killed and been affecting around half a million other people, multiple earthquakes in Lombok Island have killed 564 people and 4,340 people were killed in earthquake and tsunami in Sulawesi (CRED & UNISDR, 2019).

In terms of economic losses, disasters had cost US$520 billion and forced 26 million people to poverty globally per annum, World Bank recorded (Hallegatte, Vogt-Schilb, Bangalore & Rozenberg, 2017). From 1998 until 2017, there were US$2,908 billions of economic losses, and 77 percent or US $2,245 contributed by climate-related disasters (Wallemacq & House, 2018).

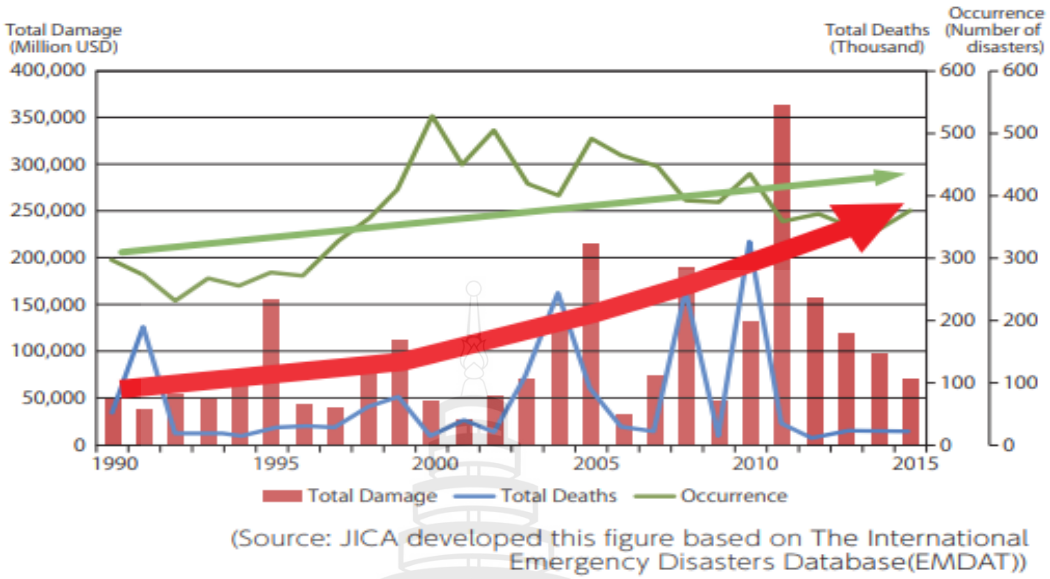


Source Below and Wallemacq (2018)

Figure 1.2 Share of Deaths (%) by Continent in 2017

Between 2007 and 2016, Asia experienced the biggest loss in the economy due to disasters with 53.4 percent of the world's share followed by America, Europe, Oceania, and Africa (Below & Wallemacq, 2018). While in 2017, America was most economically affected with 88 percent followed by Asia (9.4), Europe (1.2), Oceania (1.0), and Africa (0.4) (Below & Wallemacq, 2018).

A diagram developed by the Japan International Cooperation Agency (JICA) showed that between 1990 until 2015 the trend of disaster occurrence is increasing and its economic cost consequently, but not the total death, fortunately (see Figure 1.3) (Japan International Cooperation Agency [JICA], 2017). Further, JICA explained that it was because human beings and the economy are ever-growing phenomena, while the space to be occupied by a human is limited, including the high-risk area or area with the record of disaster occurrences (JICA, 2017). The situation becomes deteriorate knowing that some low-middle income countries may not have the financial capacity in engaging with the economic impact caused by disasters, to fit the annual average cost of disasters (United Nations International Strategy for Disaster Reduction [UNISDR], 2015).



Source Ritchie and Roser (2019)

Figure 1.3 The Number of Reported Natural Disasters

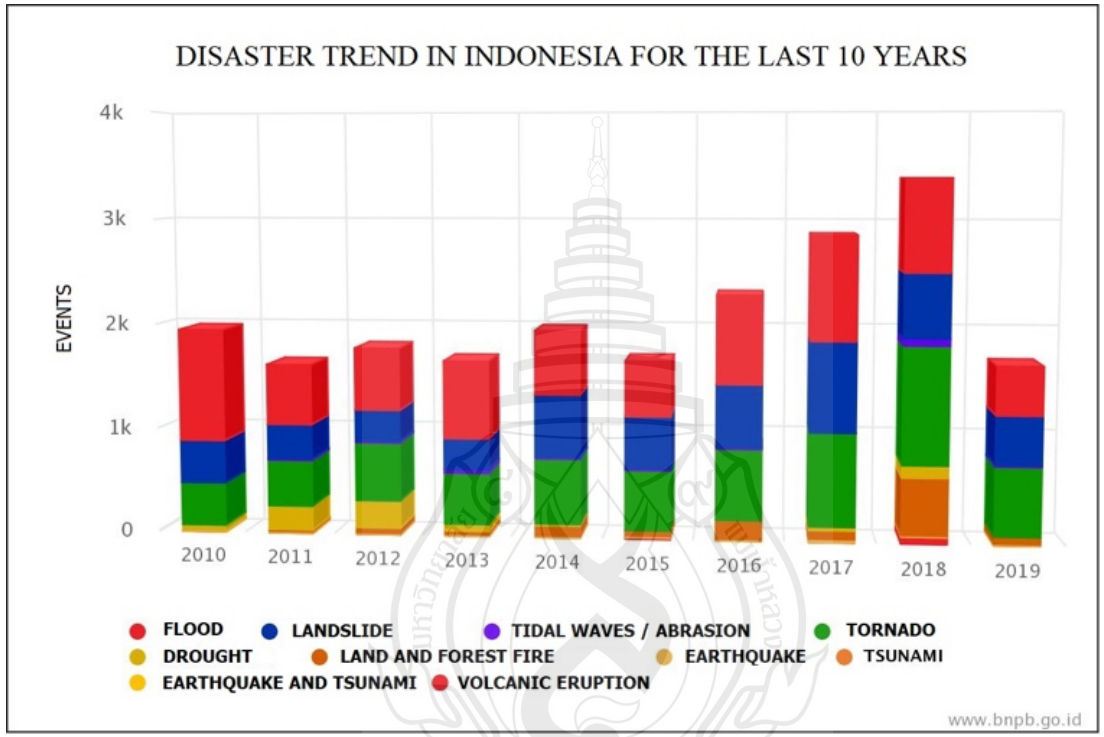
Therefore, Special Representative of the Secretary-General for Disaster Risk Reduction, Mami Mizutori further proclaims that there is no part of the globe is an exception from the impact of natural disasters so that reducing disaster losses is important moves to save more lives and assets (CRED & UNISDR, 2019). As JICA stated that disaster risk reduction effort could be one of the ways by improving the way to manage disaster risk which has been proven to be successful to reduce the death toll as shown in Figure 1.3 (JICA, 2017; CRED & UNISDR, 2019).

The objective of Disaster Risk Reduction (DRR), which is sometimes also referred to as Disaster Risk Management (DRM), is to enhance the resiliency of the people and its circumstances (e.g., economy, social, political, etc.) to withstand, absorb, contain, and recover from and have better welfare in facing the disaster risks (United Nations Office for Disaster Risk Reduction [UNDRR], 2015a). Towards the end of the 20th Century, preventing losses and alleviate the impact of the hazards, in which the severity cannot be decreased, can only be done by decreasing and organizing the condition of disaster risks exposure and vulnerability (UNDRR, 2015a), that is through prevention and mitigation of risk-oriented policy (Inter-American Development Bank [IDB], 2015). Building construction, undesirable location of private and public

infrastructures messed up cities' growth, insufficient economic, finance, and management, the devastation of a natural ecosystem that conserves and live the population are some of the examples from the vulnerabilities as latent risk (IDB, 2015) that should be engaged. This includes the development of permanent housing reconstruction in post-disaster as a measure to bring safety and security, restore dignity, and better livelihood of the affected communities (Barakat, 2003; Prieur, 2012).

When it comes to the implementation of DRM, so far, there is no "one size fits all" approach to DRM (UNDRR, 2015a). However, there are many approaches and frameworks which have been proven to be effective to decrease disaster risk. Further, UNDRR added that the favorable DRR outcomes are coming from the combination of top-down institutional changes and strategies with bottom-up, local, and community-based approaches (UNDRR, 2015a). One of the most notable mainstream frameworks on DRM is the Build Back Better Approach which coming up after the Indian Ocean Tsunami in 2004 by William J. Clinton, the United Nations Secretary-general' special envoy for tsunami recovery and getting more exposure after its inclusion in to-date disaster risk reduction ambition: Sendai Framework 2015-2030 (Mannakkara & Wilkinson, 2014; Maly, 2017; United Nations [UN], 2015). It is an approach to enhance the community's physical, social, environmental, and economic situation in attaining a resilient community by applying the reconstruction measure (Clinton, 2006). Reconstruction is an arduous and extensive measure and includes many distinct elements, thus, the Build Back Better Approach also refers to a deep expansive approach for post-disaster engaging those frequent issues and make sure that the community is resilient for their future (Mannakkara & Wilkinson, 2014).

Nonetheless, CRED has noted Indonesia as the state with the highest number of deaths in 2018 with 4,535 people died according to the recorded data (CRED & UNISDR, 2019). Following the global trend of the disaster occurrence, in the last 10 years, the National Agency for Disaster Management (Badan Nasional Penanggulangan Bencana/BNPB) recorded that in 2018 there were approximately 3,397 events of disaster, with 3,874 people died, 563,135 people displaced, and approximately 673,620 houses were affected.



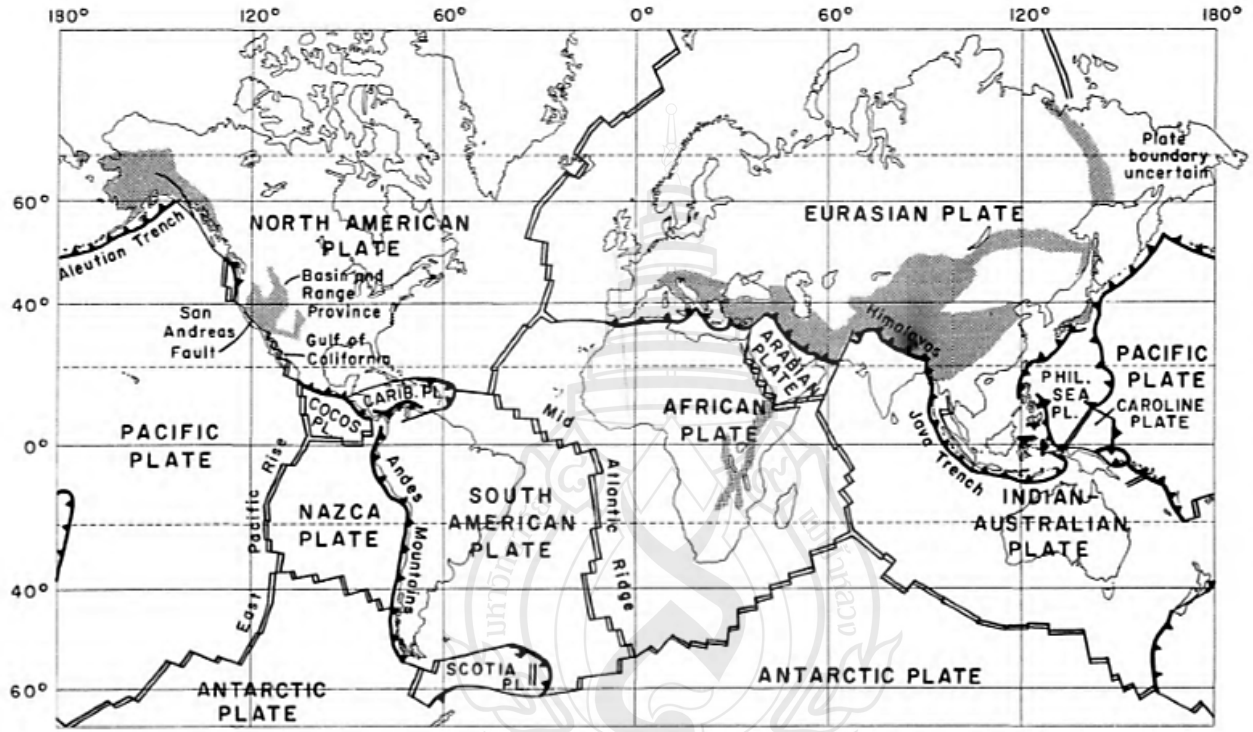
Source BNPB (2019a)

Figure 1.4 Disaster Trend in Indonesia for the Last Ten Years

In Figure 1.4, the data also shows that until April 2019, there were 1,692 events already with 392 people dead and missing, 838,321 displaced people, and 21,854 houses were affected (Badan Nasional Penanggulangan Bencana [BNPB], 2019a). This phenomenon is possible because of the geological and astronomical location of Indonesia (Yanuarto, Pinuji, Utomo & Satrio, 2018). Geologically, Indonesia is located in the middle of the three tectonic plates which are Eurasia, Pacific, and Indian-Australia make (Figure 1.5) and two volcanic arcs comprising of Mediterranean and Pacific (Figure 1.6). Consequently, Indonesia has to co-exist with the geological type of disaster, for example, volcano, earthquake, and tsunami (Hamilton, 1991). Also, astronomically, Indonesia is located in the equator so that causes Indonesia has two seasons: rainy season in October – March and dry season in April – September. Besides, there are other phenomena caused by the astronomical location which are La Nina (cold phase) and El Nino (warm phase).

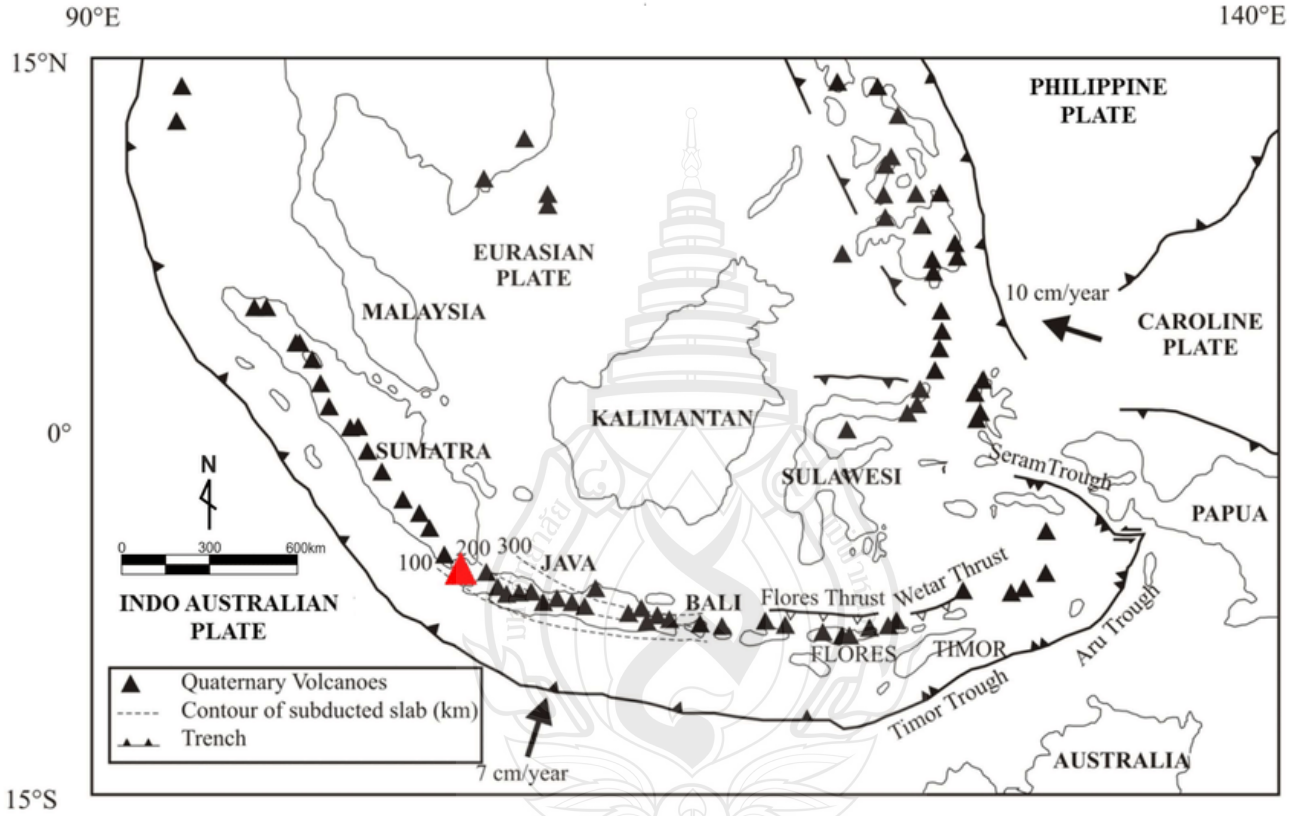
It refers to periodic changes in the Pacific Ocean surface temperatures affecting the weather. Some reference also refers to a longer season during the two phenomena which La Nina will cause a longer rainy season and El Nino will cause a longer dry season. This condition causing Indonesia is exposed to a climatological type of disaster like floods, landslides, tornados, drought, and forest fire. Normally, La Nina and El Nino happen every three to seven years with nine to twelve months each (Yanuarto, Pinuji, Utomo & Satrio, 2018).

One of the deadliest mega-disasters recorded by the International Disaster Database between 2000 and 2018 was the Indian Ocean earthquake and tsunami in 2004 which have caused approximately more than 242,000 people killed (CRED & UNISDR, 2019). In Aceh (NAD) and Nias island, North Sumatera, Indonesia there were approximately 130,000 people killed while 37,000 people were still missing and left 500,000 others homeless (Badan Rehabilitasi dan Rekonstruksi [BRR] and Partners, 2006). Earthquakes and tsunami in NAD-Nias in 2004 had become an alarm for both government and people in Indonesia due to their huge impact on human lives, economy, and supporting structure and infrastructure (Badan Nasional Penanggulangan Bencana [BNPB], n.d.). Therefore, the government of Indonesia issued a Constitution Number 24 the Year 2007 about Disaster Management as one of the attempts to respond to the disaster issue.



Source Hamilton (1991)

Figure 1.5 World Tectonic Map and Indonesia Position



Source Abdurrachman, Widiyantoro, Priadi and Ismail (2018)

Figure 1.6 Tectonic Plates in Indonesia and Volcanic Distribution Map

A government-based organization, named Badan Nasional Penanggulangan Bencana (National Agency for Disaster Management / BNPB) was established as one of the outcomes of the policy, to improve the capacity in responding to a severe disaster, as the frequency is also inclining. Based on the Presidential Regulation Number 8 the Year 2008 about Badan Nasional Penanggulangan Bencana, the organization functioned as the implementation of coordinated, integrated, and comprehensively disaster management activities. The organization expected to provide better disaster management, including but not limited to the effort of prevention or preparation, response, recovery, and mitigation, thus, expected to have a minimum to no casualties caused by the disaster (BNPB, n.d.). Since then, it marks the shifting of the way to respond to disaster in Indonesia from response-oriented to be more preventive-oriented.

Specifically, in terms of rehabilitation and reconstruction in Indonesia, according to the autonomous law, it can be assumed that it uses the Bottom-Up Approach with the inclusion of central government, professionals, the affected people, and the non-government organization. It is proven by optimally uses the local government resources, which refers to the provincial level and below level, to conduct the rehabilitation and reconstruction to protect people and their assets from disasters' impact. Besides, the practice of bottom-up style through Community-based Rehabilitation and Reconstruction Settlement (REKOMPAK) in the rehabilitation and reconstruction in Yogyakarta (both the earthquake in 2006 and the volcano eruption in 2010) have strengthened this assumption.

As it has been mentioned previously that in the world itself, there is no specific pattern on implementing disaster risk reduction. It is supported by the availability of many approaches and frameworks on it. A research article on the policy implementation in post-hurricane Katrina that struck the city of New Orleans in 2005 for example. It criticizes the effectivity of the US system which uses the Top-Down Approach in engaging with the damages and impacts of the aftermath (Berry, 2011). Another article trying to convince about the use of stakeholder participation in performing post-disaster recovery in India (Chandrasekhar, 2010). Specifically talking about the permanent housing reconstruction, there is also various practice in implementing the policy (Maly, 2017).

In Japan, after the Great East Japan Earthquake in 2011, the permanent housing reconstruction uses a Top-Down Approach with no involvement of the people in the process and found no problem. In the Philippines, after hurricane Yolanda, the housing reconstruction was performed by the national government and non-governmental organizations with two different approaches: the central government with the Top-Down, while the NGO uses the Bottom-Up Approach. These cases more or less could be as proves of the above assumption about the implementation style in disaster risk reduction.

In Central Sulawesi, the earthquake magnitude 7.4 followed by the tsunami had caused 4,340 people to die and lost, 4,438 injured, 172,635 evacuated, Rp2.89 trillion loss impact and damaging amount Rp15.58 trillion. It becomes the deadliest disaster in recent days (BNPB, 2019b). It was begun at 14:00 until 15:25 (GMT+07:00), three earthquakes as reported, each of them is magnitude 5.9 hit 8 km northwest of Donggala, magnitude 5.0 hit 10 km northeast of Donggala and magnitude 5.4 hit 11 km northeast Donggala on 28 September 2018 (Galih, 2018). And right after, in 17:02 an earthquake magnitude 7.4 hit northeast of Donggala followed by the issuance of an early warning for tsunami potency by Meteorology, Climatology, and Geophysical Agency (Badan Meteorologi, Klimatologi, dan Geofisika/BMKG). The warning, then, revoked by BMKG at 17:37 while in Palu, Donggala, Mamuju the tsunami strike was still happening (Galih, 2018). Later, until 21:26 a total of nine aftershocks quake was still taking a place with a diverse intensity around magnitude 5.0 until 6.1 hit Palu, Donggala, and Sigi. As the local government called for an emergency response from September 28th until 14 days ahead (it is extended, later on, until February 2019), the local community, army, police, government, and the national government gave a quick response to this disaster. The news about the disaster then spread out quickly through media through television, social media, and radio national and international (Medistiara, 2018).

By 24 April 2018, the affected area in Central Sulawesi has entered the rehabilitation and reconstruction phase until the end of 2020 as instructed in the Presidential Instruction Number 10 the year 2018 concerning the Acceleration of Central Sulawesi Rehabilitation and Reconstruction (BNPB, 2019c). The latest updates in April 2019 from BNPB, the Central Sulawesi earthquake and tsunami had cost

Rp23,14 trillion or US$ 1,629,577,464.8 while to reconstruct affected areas it needs Rp36 trillion or US$ 2,535,211,267.6, with the assumption of the exchange rate around 14.200 (Nugroho, 2019). BNPB also said that the rehabilitation and reconstruction will focus on five sectors, which are housing, infrastructure, social, economic, and cross-sector; and the press release also said that housing is the most impacted sector compare to others besides the idea of prioritization (Nugroho, 2019).

Aiming to bring safety and security, restore dignity, and better livelihood of the affected communities in Central Sulawesi, through the issuance of President Instruction Number 10 the year 2018 about rehabilitation and reconstruction stated that the permanent housing reconstruction will be assisted and supervised by the Ministry of Public of Work and Housing (Kementerian Pekerjaan Umum dan Perumahan Rakyat [Kemen PUPR]), coordinated by the National Agency for Disaster Management, and funded by the local government. It will use both contractual schemes and self-managed by the people.

So far, there have been 629 units of temporary housing in 69 locations from the total of 699 units in 72 locations for affected people per April 2019 built by the state-owned enterprise (Kementerian Pekerjaan Umum dan Perumahan Rakyat [Kemen PUPR], 2019a). This is to address those who have lost their house, either heavily damaged or lost, in four affected districts (Table 1.1) (Nugroho, 2019), distributed in three districts/city: Palu 288 units, Donggala 190 units, and Sigi 221 units (BNPB, 2019b). Using knockdown construction type and 26.4 square meters width, each temporary house unit divided into twelve chambers and will be occupied by twelve different families (Biro Komunikasi Publik Kementerian Pekerjaan Umum dan Perumahan Rakyat [Kemen PUPR], 2018). Costing Rp500 million each unit, it is built by State-owned Enterprises' contractors and equipped with four bathrooms and toilets, septic tank, washing space, kitchen, and 450-watt electricity. Every ten units (one cluster), there will be a place for early childhood education programs, an elementary school, a garbage dump, an open space for people's activity, and a parking space. The affected people can live in this house for one or two years until the permanent houses are ready. The authority also said that the affected people do not need to wait until the whole 699 temporary houses are finished to move in. They can gradually enter (Biro

Komunikasi Publik Kementerian PUPR, 2018), based on the nomination from the districts/city officials (Kementerian PUPR, 2019a).

Table 1.1 Housing Condition Data per 30 January 2019

No	District/city	Damaged house level				Total
		Light	Medium	Heavy	Lost	
1	Palu	17,293	12,717	9,181	3,673	42,864
2	Sigi	10,612	6,480	13,144	302	30,538
3	Donggala	7,989	6,099	7,290	75	21,453
4	Parigi Moutong	4,191	826	533	0	5,550
	TOTAL	40,085	26,122	30,148	4,050	100,405

Source Tandigala (2019)

In April 2019 from 629 units of established temporary houses, only 406 units of it occupied (Basri, 2019). Some of the people reluctant to occupy temporary housing, because it is too far from their former location, limited electricity access, and clean water (Basri, 2019). According to the update in August 2019, there are still 786 empty chambers in the temporary houses (Kementerian PUPR, 2019c). In detail, there are 320 chambers in Palu, 325 chambers in Donggala, and 141 chambers in Sigi. Head of Settlement Infrastructure Center for Central Sulawesi, Ferdinand Kano Lo, stated that it is because the districts/city officials have not issued the nominee (those who are legitimately eligible to get the housing assistance from the government).

Furthermore, he said that people prefer to stay at their house instead of a temporary house so that they can get social assistance (living allowance, housing assistance, and another form of assistance) from other parties (Kementerian PUPR, 2019c). An NGO, Wahana Lingkungan Hidup (WALHI), the Executive Director for Central Sulawesi, Abdul Haris Lapabira stated that people in temporary houses are suffering from insufficient basic services such as logistic supply, clean water, and health service (Amali, 2019). They are not working, and the supply has been stopped

since the end of the emergency response period on 23 April 2019. Whilst there are still many people who live in the refugee camps.

There is no clear information from the NGOs and government who working on the permanent house when they will move into the permanent house (Amali, 2019). Head of Public Works Department for Palu City, Iskandar Arsyad, explained that only those whose house is heavily damaged and lost (not livable), and located in disaster-prone areas deserve to get the stimulant fund, temporary house, and permanent house. So, the renters (both house and flat) are excluded from the assistance and have to stay in the refugee camp (Kumparan, 2019). With the cost of Rp400-450 million per unit, per April 2019, there is no single house that has been paid due to the late disbursement from the ready-to-use funds of the National Agency for Disaster Management (Malaha, 2019). The temporary house project is originally handled by the State-owned Enterprises i.e., PT. Pembangunan Perumahan, PT. Wijaya Karya, PT. Hutama Karya, etc. but there is also a concern to include local contractors through the Association of Indonesian Construction Entrepreneurs in Central Sulawesi. It resulted in cash-flow difficulties for local contractors so that they are unable to continue the work. The Public Works and Housing Department in Central Sulawesi working hard to sorting the problem (Malaha, 2019).

Meanwhile, to relocate people from disaster-prone areas and accommodate those whose house is no longer livable, Coordinating Minister for Politics and Security, Wiranto, has inaugurated the construction of permanent housing for the first phase in Pombewe village, Sigi District on 1 July 2019 (Hakim, 2019). The Indonesian government planned to build 11,788 units of permanent housing in two districts/city: Palu (Tondo-Talise village 4,878 units and Duyu village 450 units) and Sigi (Pombawe village 3,000 units) by the end of 2020 (Kementerian PUPR, 2019b). In regard to that, the Ministry of Agraria and Spatial Planning (Kementerian Agraria dan Tata Ruang/ATR) / National Land Agency (Badan Pertanahan Nasional/BPN) have used a land acquisition scheme to provide approximately 591.6 hectares, consist of 150 hectares in Tondo village, 38.6 hectares in Talise village, 41 hectares in Duyu village, and Pombewe 362 hectares (Alexander, 2019). The permanent house uses Simple Healthy Instant Home (Rumah Instant Sederhana Sehat/Risha) and Instant and Safe House (Rumah Instant dan Hunian Aman/Ridha) technology with 36 square meters

width on 150 square meters of land (Rahadian, 2019b). Head of Disaster Management Task Force for Central Sulawesi Ministry of Public Works and Public Housing, Arie Setiadi Moerwanto stated that the development will involve developers through the auction process (Rahadian, 2019a) and non-governmental organization like Yayasan Buddha Tzu Chi who have confirmed to build 3,000 units in support for housing reconstruction. The permanent house will cost Rp50 million per unit, and it is not compensation but government assistance to the affected people instead (Kementerian PUPR, 2019b). Besides, the government also have prepared satellite permanent house to engage in the dispersed disaster-prone area and the diversity of people's occupation such as fisheries and farmers, the two dominant occupations in Central Sulawesi (Rahadian, 2019b). The house will consist of a maximum of 100 houses on 2.5-5 hectares' land, distributed in three districts (see Table 1.2) (Rahadian, 2019b). Like the temporary house, the data about the prospective occupants is not final yet according to the update in September 2019, so the development of the permanent housing numbers relies on the assigned width of land by the local government (Hajiji, 2019). There are many different data released by the officials and regular news. It is difficult to find the final total number of the locations, the width of the land used, and the total beneficiaries.

Table 1.2 Distribution of Satellite Permanent Housing

District	Village	Unit
Sigi	Loru	100
	Sibalaya Utara	40
	Lambara	100
	Bangga	400
	Salua	200
Nelayan	Ganti	125
Donggala	Lompio	230
TOTAL		1,195

Source Kementerian PUPR (2019b)

Housing reconstruction is important for the affected people in Central Sulawesi because Sulawesi Island is exposed to many potential hazards. It is located between three major tectonic plates, which are Eurasia, Pacific, and Indo-Australia (see Figure 1.7) (Hamilton, 1991). Those three tectonic plates move collided with each other, makes Sulawesi Island prone to tectonic earthquakes. Besides, Sulawesi also part of the Pacific volcanic arc, so that volcanic activity is not an exceptional phenomenon to happen (Abdurrachman, Widiyantoro, Priadi & Ismail, 2018).

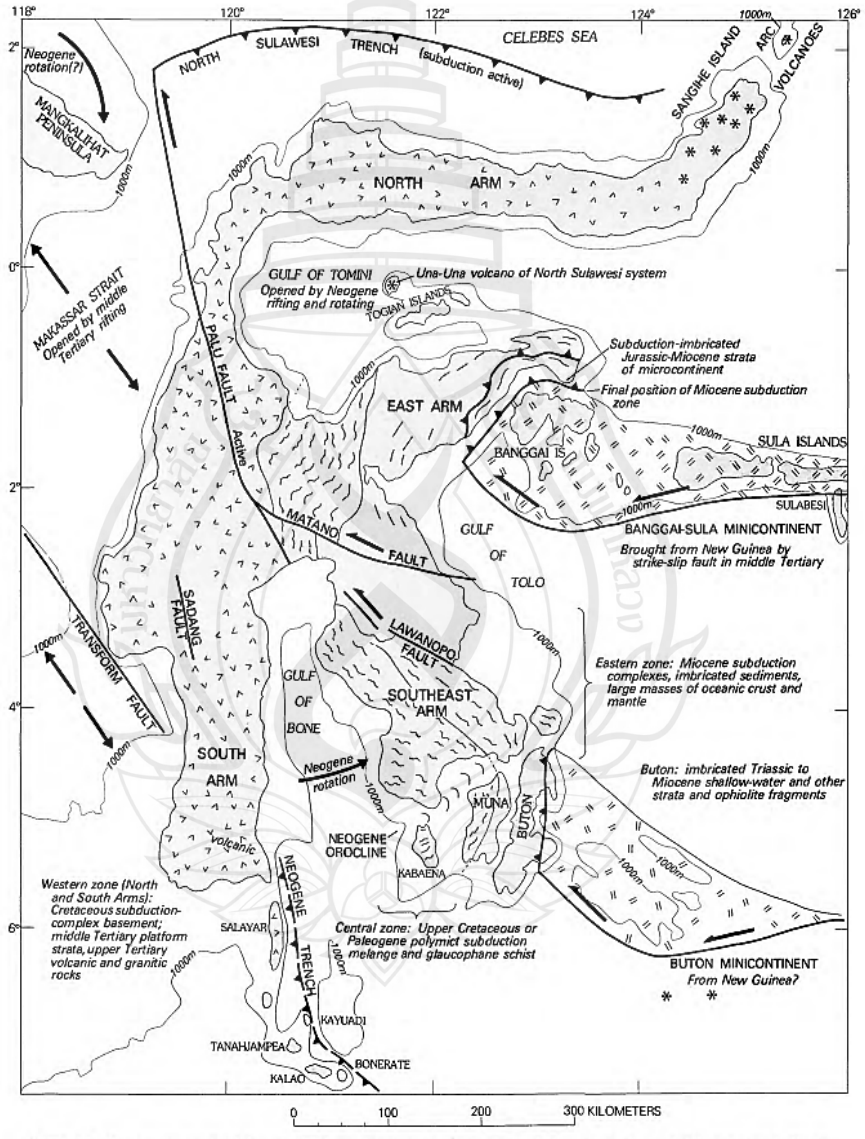
A total of nine aftershock quakes following the main event on 28 September 2018 adequately proves that the tectonic plates are actively moving (Galih, 2018). The government of Indonesia shall fully be aware of these facts, therefore, it is important to address one of the most tangible assets for the people i.e., housing, by setting up an effective policy that can address the reconstruction as well as making people and the assets better in dealing with the next disasters.

From the stipulated law regarding the rehabilitation and reconstruction for Central Sulawesi, it can be assumed that the Central Sulawesi case uses the Bottom-Up Approach by using the available resources in the local government, with the inclusion of the central government in terms of supervision and assistance, and the people in terms of the execution. However, from the available initial data above, it can also be assumed that the Central Sulawesi case using a different implementation style, not only from the stipulated law but also from other reconstruction and rehabilitation projects on the deadliest disaster experienced by Indonesia which was the NAD-Nias earthquake and tsunami in 2004 and Yogyakarta (special province)-Central Java earthquake in 2006. It is because, in terms of funding, it still coming from the central government through the National Agency for Disaster Management and executed by the Ministry of Public Works and Housing. While the local government functioned as a supporting institution on the local level.

Besides, it is not like the use of the Bottom-Up Approach in Indonesia is failed so that they use the Top-Down Approach in Central Sulawesi. Housing reconstruction in post-eruption of Merapi volcano in Yogyakarta, 2010 regarded as one of the success stories of people-centered build back better practice (Maly, 2017). Housing reconstruction in post-earthquake in Yogyakarta, 2006 become a lesson-learned site in conducting permanent housing project for the Public and Housing Works Department

in Central Sulawesi, and Palu City, Donggala, and Sigi districts, proven by Local Apparatus Organization (OPD) officials visit program in 20-23 December 2018 (Siara, 2018).

Finally, in conclusion, this research aims to analyze the policy implementation of housing reconstruction policy, concerning the policy implementation models on permanent housing in the Central Sulawesi case.



Source Hamilton (1991)

Figure 1.7 Map of Sulawesi Over Tectonic Plates

1.2 Research Questions

1.2.1 How does the housing reconstruction policy is implemented in Central Sulawesi?

1.2.2 How does the policy implementation approach style in implementing the housing reconstruction policy can contribute towards attaining disaster resilience for the affected communities in Central Sulawesi?

1.2.3 What are the challenges of implementing the housing reconstruction policy towards attaining disaster resilience for affected communities in Central Sulawesi?

1.3 Hypothesis

1.3.1 Indonesia's government implements a housing reconstruction policy in Central Sulawesi by using the Top-Down Approach through contractual scheme coordinated and supervised directly by a special team from the central government through the Ministry of Public Work and Housing and building back better is clearly stated in the policy. People are not involved in the design, construction, and decision-making process, although the responsible team for the reconstruction has an attempt to synchronize the size of the family with the constructed house. There is also improvement in terms of construction and spatial planning as it is stipulated in the general policy on housing reconstruction.

1.3.2 The contribution of the practiced policy implementation approach towards attaining disaster resilience for the affected people in Central Sulawesi can be seen from the objective that has been set, the procedures that operated on the fields, the involved actors, and resources that are used to perform the rehabilitation and reconstruction in Central Sulawesi.

1.3.3 There are some challenges in implementing the housing policy in Central Sulawesi. It comes from the central government, local government, and the affected people and resulted in many problems remain.

1.4 Research Objectives

1.4.1 Examine the policy implementation approach that is being used to implement the housing reconstruction policy in permanent housing in Central Sulawesi

1.4.2 Examine the factors in the practiced policy implementation approach and the relation with the effort in attaining disaster resilience for the affected people in Central Sulawesi

1.4.3 Analyze the challenges of implementing the housing reconstruction policy in permanent housing to attain disaster resilience in Central Sulawesi

1.4.4 Examine an effective policy implementation approach in housing reconstruction in Indonesia

1.5 Scope of the Study

The scope of this study is limited to the policy implementation approach in the housing reconstruction policy in Indonesia, using permanent housing in the Central Sulawesi post-earthquake and tsunami case, which was happened on 28 September 2018 as a case study. The level of analysis is the policy implementation as the object, and the permanent house rehabilitation and reconstruction policy is the subject of the research to analyze the policy implementation models. The study used documentary research, post-tsunami in NAD-Nias 2006, an earthquake in Yogyakarta-Central Java as precedent and additional information from an informant from the Disaster Management Task Force for Central Sulawesi.

1.6 Limitation of the Study

There is a shifting method of collecting data while conducting the research. Previously, the data collection will be conducted in the Ministry of Public Works and Housing and the people in the affected area, especially in permanent housing construction location in Central Sulawesi. However, due to the Covid19 situation, the mobility restriction was implemented in Indonesia. The data collection only relies on

the informant from the Disaster Management Task Force for Central Sulawesi from the Directorate General of Housing Provision. The data collecteion was conducted through WhatsApp messenger and electronic mail because the ministerial implement a social distancing policy by minimizing people mobilization in their office. During the interview period, which was during November, the government institution received massive attention due to the office cluster of Covid19 spreading. The success of collecting the data with the government official in Jakarta is also supported by the researcher's situation of having a job-based in Jakarta. The administration behind the data collection through WhatsApp can be performed quite smoothly.

Unlike collecting data from the government official in Jakarta, the researcher found it impossible to do the field research in Central Sulawesi targeting the affected people in permanent housing construction locations. It is because Sulawesi is located on a separate island from Jakarta, and it takes a three to four hours flight from Jakarta. During the Covid19, Central Sulawesi also implemented the mobility restriction policy. Therefore, it was practically impossible to reach it. Despite all the difficulties, the researcher will not sacrifice the research quality.

This situation generates a tendency for research results that rely more on the government's perspective than the affected people or the local government. Therefore, this research applied documentary research to counterbalance the information coming from the one and only informant.

CHAPTER 2

LITERATURE REVIEW

2.1 Public Policy

Dye (2002a) defines public policy as “whatever government to do or not to do” (Dye, 2002a). While Knoepfel, Larrue, Varone and Michael (2007) public policy defined as the radiance of purposively reasonable resolutions or hustle taken or performed by distinct public and sometimes private actors aiming to solve designated problems utilizing various resources (Knoepfel, Larrue, Varone & Michael, 2007). Page (2009) considers the public policy as the erected integration implemented on a different and separate measure or a certain law, in a form of intentions and/or action which contemplates a variety of intentions and ideas molded from a specific to general reasons, even a universal belief. It can be an undesirable or uncalculated outcome of professional or bureaucratic routines (Page, 2009). In a brief, public policy means a public administrators’ product of analysis upon designated problems in society. It is formulated through sequences aimed to solve the problems by utilizing any means possible based on the interest of the government and related party in it.

There are many ways in developing public policy, depends on the governance, government, and circumstances in time of making it. The dominant school coming from the rationalist model using the policy cycle (Blomkamp, Sholikin, Nursyamsi, Lewis & Toumbourou, 2017). This model was first developed by Harold D. Lasswell in 1956 as well-defined but pertinent sequences to comply with, in the method of developing and ratifying a public policy, amplified by logic and rationality of applied problem resolution. As a worthwhile means of describing a complex and disorganized policymaking process in a political system, Lasswell’s policy cycle have been developed by many scholars (see Figure 2.1) (Blomkamp, Sholikin, Nursyamsi, Lewis & Toumbourou, 2017) which includes (Knoepfel, Larrue, Varone & Michael, 2007):

1. The emergence of the problem means that the absence of the desired status with the current situation. There is a gap that creates dissatisfaction and seeks a solution.

2. Agenda setting refers to a filtering process by the public administrator. This situation due to the presence of many problems in the field and all of them seek a solution.

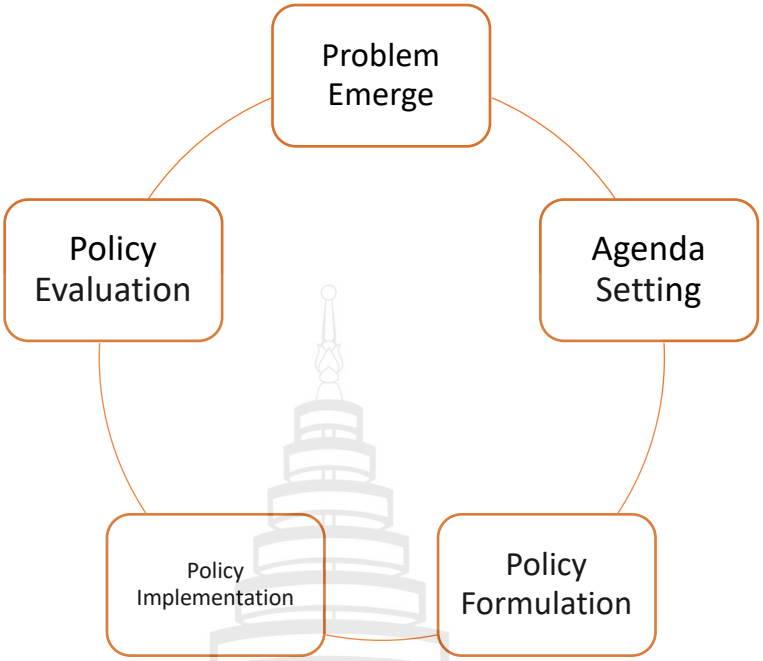
3. Policy Formulation is the process to determine the objectives, measure and the procedure will be taken by the public administrator to address the key issue.

4. The implementation phase refers to the process of getting an output from the formula that has been discussed before through the execution of the formula to the real situation.

5. The evaluation would be the last step of the policy cycle. This involves the effort to find out the results of the policy implementation and also the impact on the targeted community.

Further, the public policy involves eight constituents, they are (Knoepfel, Larrue, Varone & Michael, 2007):

1. Identification of the problem and the solution to resolve the problem
2. The presence of a targeted group of people whose behavior caused the problem, thus, would be changed to solve it
3. The intentional coherence in the produced policy in the sense that the policy should address the problem instead of creating a new problem by its implementation
4. The presence of the outcome after the policy is implemented
5. The involvement of public actor in the cycle of the public policy
6. The presence of formalized measure
7. Decision and activities that impose the constraint



Source Knoepfel, Larrue, Varone and Michael (2007)

Figure 2.1 Public Policy Cycle

However, both the policymaking process in general and the policy cycle model in specific are not free from criticism. In general, it seems that the works in public policy have been dominantly dedicated to the U.S. instead of general application (Page, 2009; Blomkamp, Sholikin, Nursyamsi, Lewis & Toumbourou, 2017). In the spirit of analyzing the public policy and shatter the limitation of the work outside of the U.S. context, therefore, some alternative schools emerge to cater to the works gap, such as public policy in Organization for Economic Cooperation and Development (OECD) members context, Australian political context, United Kingdom, even developing states (Blomkamp, Sholikin, Nursyamsi, Lewis & Toumbourou, 2017). As a policymaking model stressing a rational and logical way of thinking, the dominant criticism is that the model ignores a variety of factors that could limit rational decision makings, such as a practice of public policy which mere considered as organizational routines, or political seizure. Alternatives policymaking processes such as incrementalism, garbage

can model, the multiple stream framework, and advocacy coalition framework (ARF) would like to challenge the policy cycle model, by saying that policymaking is not always systematic, rational, and sequential. Many factors could affect the policymaking process resulted in the inability of complying with the sequence. This situation probably most suitable described in the developing countries context where public policymaking is associated with many obstacles and inclusive to many actors with various capacities (Blomkamp, Sholikin, Nursyamsi, Lewis & Toumbourou, 2017).

In shorts, incrementalism which is associated with Lindblom (1959) would like to exploit a short supply of examination to generate qualified, actual and admissible resolution (Lindblom, 1959). In the middle of an attempt to be rational, policymakers are finite in terms of time, intelligence, and other supporting resources in engaging with a complex problem. Therefore, policymakers tend to generate a politically attainable and adequate resolution to engage the problem by accepting the past resolution together with its minor change in the status quo. However, incrementalism is regarded as a strategic policymaking process because it degrades the chance and value of uncertainty (Lindblom, 1959; Anyebe, 2018).

Garbage can model stressed more on the idea of deciding in an illicit end (Blomkamp, Sholikin, Nursyamsi, Lewis & Toumbourou, 2017). Cohen, March and Olsen (1972) explains that in an intricate organization, deciding in such an ambiguous end is a common practice (Cohen, March & Olsen, 1972). Cohen's work brings up the concept of organized anarchies which refer to the organization's behavior in the situation of making a decision. It comprises of three characteristics: (1) problematic preference or the absence of standardization in taking the decision and its link with the problems; (2) unclear technology, which means the organization's decision-making process lives under the experience of trial and error; and (3) fluid participation, refer to the inconsistency of the participant in the decision-making process is ever-changing. Looking at this situation, the garbage can model is perceived as a facility to generate a solution and engaging the targeted problems, by throwing what is perceived as problems and solutions in one can as well as the analysis.

Multiple streams framework refers to a policy process that stresses the effort of occupying the decision maker's attention (Kingdon, 2017). The model was conceptualized by Kingdon in 2003 by extending the garbage can model. As reflected

by its name, the model uses three streams, problem perception, solutions, and public sentiments. These streams come together to create change in agenda setting (Blomkamp, Sholikin, Nursyamsi, Lewis & Toumbourou, 2017).

The advocacy coalition framework believes in the idea that public policy is a result of long-term contending beliefs and issues (Sabatier & Weible, 2007). It was first developed by Sabatier and Jenkins-Smith in 1993 aiming to answer why a certain change is made. However, the model is interested in the long-term policy change, therefore, a certain time frame is needed (Sabatier & Weible, 2007).

In conclusion, public policy is perceived as an attempt by the decision-makers who usually associate with the government or authorized bodies with the responsibility to solve what is perceived as a problem in society. Various models are trying to explain the development of public policy. However, some of them cannot be generalized or require a certain context to be applicable. As the work of The Policy Lab from the University of Melbourne with the Indonesian Centre for the Law and Policy Studies (Pusat Studi Hukum dan Kebijakan Indonesia [PSHK]) stated that so far, there is no specific existing model that could best explain the policymaking process in Indonesia, even the dominant school of policymaking, which is the policy cycle (Blomkamp, Sholikin, Nursyamsi, Lewis & Toumbourou, 2017). This indicates that the policymaking process is, basically, a complex process.

Policy Implementation

Besides talking about what causes a change in the previous section, or talking about public policy and its development, this section will be discussed about the way to affect the change itself. In other words, implementing the policy meaning that the government and society have agreed to make a change. It is arduous to generalized or standardized the element of successful implementation because it will be contingent upon the political, economic, and social context (Cerna, 2013).

As public policy is about tools and objectives and regarded as a product of a sequence, then there should be a discussion about who will use the tools and attain the objectives (Hill & Hupe, 2002). Using the policy cycle model, implementation is seen as a continuation of the previous sequence, which is the policy formulation. In this manner, Page defines that the policy was an interesting roaster of ideas brought by

policymakers at the beginning (Page, 2009). These ideas are things that the policymakers looked for solutions through the policy. Page argues that the policy itself can be inferred as intention or action. The moment when policymakers cater the issues to the table and propose a solution though it is not going to be implemented in the end, that is enough to be called policy. But a simple action by the front-liner officer to decide someone breaking the rules or not regardless of the sufficient evidence, it is also can be called policy. From defining policy into intention and action, Page developed it more into four levels of abstraction, which one of the abstraction levels leads to how Page defines policy implementation (Page, 2009):

1. A policy can undertake the shape of principle. For example, when the policymaker in Indonesia decided to privatize the strategic economic asset in times of crisis.

2. A policy can also be a strategy to engage in certain issues. For example, the decision of the U.S. to put a wall on the border with Mexico. This policy aimed to decrease the channel of illegal migrants going to the U.S. from the southern border.

3. Policy as a measure refers to particular tools that can result in a distinction of each policy line. It can be in the form of a checklist of who is constituted as a legal migrant in the U.S.

4. Lastly, a policy can be viewed as a practice. It is about the official doings carrying out the measure to recognize the policy line. Practice can also be seen as an implementation in a limited sense. But the dominant implementation study found that it is also necessary to recognize the interaction between the policy and the existing practice to shape implementation.

While Page argues that the focus of the implementation is about practice, Knoepfel et al. (2007) defines policy implementation as a series of procedures aiming to attain the tangible realization of policy's objective after the policy arrangement phase (Knoepfel, Larrue, Varone & Michael, 2007). Further, it is also presented that the policy implementation should be executed by the public, para-state, and private actors who are involved in the policy within a given legal basis. The implementation cannot exclude all progress of the legal basis carried in the governmental decree. Lastly, the compelling policy implementation contingent upon the formation of a sufficient system (Knoepfel, Larrue, Varone & Michael, 2007).

The policy implementation involves public policy instruments such as public enterprises, regulation, or public consultation which then will affect the style of the implementation itself. The instrument then could be categorized as a substantive and procedural instrument (Howlett & Giest, 2015). In the substantive instruments, it refers to those who are directly contacted to the public and/or government through money, information, authority, or organizational resources. In the procedural instrument, it refers to those who do not have direct contact with the public and/or government, intended to affect the nature of public policy procedure. Besides, the states' decision-makers and the nature of constraining also affect the style of the implementation and the use of the instruments above (Howlett & Giest, 2015).

Understanding the origin of policy implementation, there are three generations of policy implementation studies (Paudel, 2009; Winter, 2007). The first generation was between the early 1970s and 1980s, the second was from the 1980s until the 1990s, and the last generation from the 1990s until now (Matland, 1995). The first generation of policy implementation studies uncovers the undetermined connection between policy and the implemented program as the problem of policy implementation (Paudel, 2009; Winter, 2007). The first generation certainly becomes the initiator of the studies. However, it is also stated that the first generation attempted to generate theories, case by case, and non-cumulative studies (Paudel, 2009). The second generation seems to extend the work of the predecessor by pursuing the ambition of establishing theoretical models or frameworks to guide the empirical analysis (Winter, 2007). This generation is also marked by the emergence of value judgment over the policy implementation by success or failure. Besides, the most notable contribution of the second generation was the emergence of two schools of implementation and its confrontation, which is the Top-Down and Bottom-Up Approach (Winter, 2007). The second generation also contributed to the analysis of the relation of the policy, time, and government units (Paudel, 2009). The third generation has criticized that the previous generations were restricted into inadequate cases and/or supererogatory variables which impede the development of policy implementation studies (Winter, 2007; Paudel, 2009). Therefore, in the latest generation, focus more on more cases as an experiment for the theories and making it a comparative study and statistical research design to boost the investigation statistic (Winter, 2007).

In carrying out the policy, Howlett and Giest argue that so far there is no general pattern or style of implementation (Howlett & Giest, 2015). Even Page (2009) stated that it is not the policy to create practice as an arrangement of policy implementation, but it is the reciprocal action between policy and existing practice that create implementation (Page, 2009). Dye (2002b) argues that implementation involves the establishment of a new organization or appointing the new responsibility to an existing organization. He further explains that it is the job of bureaucracy to render political decisions into operating rules and regulations (Dye, 2002b). However, it has been mentioned previously that there are two schools of implementation that are Top-Down and Bottom-Up.

1. Top-down approach: This approach is developed by Mazmanian and Sabatier in early 1980 (Matland, 1995). The approach assumes the implementation from the policy-makers viewpoint where they are the ones who compose the ambition, then there will be a series of structure working on the implementation. This approach also craving for more common policy guidance so that regular and detectable acts over the policy area (Matland, 1995). The practice of Top-Down Approach can be seen from the ability and capacity of the National Agency for Disaster Management in Indonesia to formulate disaster management policy, make development plans with the inclusion of disaster management elements, determine partnership policy with other states, institutions, or international entities, formulate the use of technology with threats or disaster potency policy, formulate policies about the prevention of monopoly and over-use natural resources beyond nature's limit to self-recover, and control the collection and distribution of money and goods.

However, the Top-Down Approach had been criticized for ignoring the importance of the previous stage in the policymaking process (Matland, 1995). Besides, the political feature in the policymaking process which often containing dubious language is being put aside by this approach. Lastly, it is assumed that the lawmaker is the key actor in this approach (Matland, 1995).

2. Bottom-Up Approach: This approach standing on the opposite, characterized by rooting from the problem in society, focusing on the individual and its behavior, and admire street-level bureaucrat *(Paudel, 2009)*. The central idea of the approach is that the implementation can only be successful if the lawmaker gives attention to the street-level bureaucrat because they are the ones who are interacting with the society as the target of the implemented policy. This way, the Bottom-Up Approach would like to mitigate the failure of the policy implementation to attain its end (Cerna, 2013; Paudel, 2009; Matland, 1995). The practice of the Bottom-Up Approach can be seen in the post-earthquake in Yogyakarta and Central Java rehabilitation and reconstruction, 2006. The Central Government had surrendered its authority to the local government, which refers to the provincial and below levels according to the autonomous law in Indonesia, to perform the rehabilitation and reconstruction.

The critics come from the theory of democracy which emphasizes the idea of policy control should be in the hands of those who have been legitimately (possess sovereignty) to perform their capacity (Matland, 1995). Praising the street-level bureaucrat to direct the policy implementation means giving up the legitimacy of controlling the policy to illegitimate actors. Besides, the street-level bureaucrat directs the policy implementation, meaning that there will be a possibility to have various implementation actions. However, this action is subject to a centrally regulated structure (Matland, 1995).

From this point, the Top-Down and Bottom-Up Approaches will be the central analysis of this research. It is previously mentioned that the case of the housing reconstruction policy in Central Sulawesi is different from the other two reconstruction cases in Indonesia. Generally, Indonesia has implemented decentralization through the implementation of regional autonomy in the government system since the fall of New Order in 1998 marked by the issuance of the Provision of the People's Consultative Assembly of The Republic of Indonesia Number XV/MPR/1998, 1998 concerning the Operation of Regional Autonomy (Novianto, Sutrisno, Hermawan, Nurjaman & Suprihartini, 2015). Decentralization and regional autonomy are explained further in the Constitution Number 22, 1999 regarding Local Government which has been twice amended through the issuance of Constitution Number 32, 2004 and Number 23, 2014.

The Central Government refers to the President and Ministers, while Local Government refers to the Head of Local Government and the autonomy apparatus performing the executive function at the local level. The legislative function is performed by the Local People's Assembly (Dewan Perwakilan Rakyat Daerah), which together with the Local Government and the regional autonomy apparatus performs the Local Government. In the Indonesian government system, the local government comprises the province, district, and city which has the authority to organize and control the interest of local communities based on their thoughts and aspiration within the constitution. Farther, the constitution also defines the concept of decentralization as the alteration of central government authority to the local government, except for the six absolute authority comprising foreign policy, defense, security, justice, national fiscal and monetary, and religion.

While specifically talking about the National Agency for Disaster Management, according to Constitution Number 24, 2007 regarding Disaster Management, as a ministerial-level non-department organization, they have been authorized to formulate and stipulate disaster and refugee management policy, and coordinate the implementation of planned, integrated and comprehensive disaster management within the framework of the national constitution. In performing the duty, under Presidential Regulation Number 8, 2008, the agency coordinated by the Coordinating Minister for People's Welfare and equipped with two elements, the director and executor, and directly report to the head of the agency. The director, comprising ten related government officials proposed by the head of the government agencies, and nine professional societies. This element has to formulate the concept of disaster management policy, monitor, and evaluate the implementation. Whilst executor, consisting of professionals and experts in a form of organizational structure with eight different functions: general secretariat, deputy for prevention and preparedness, deputy for emergency management, deputy for rehabilitation and reconstruction, deputy of logistics and equipment, general inspectorate, central, and technical implementation unit.

Constitution Number 24, 2007 also instructed about decentralization through the establishment of Local Disaster Management Agency in province and districts/city level which directly report to the governor and regent/mayor. The local agency has been

authorized to formulate and stipulate disaster and refugee management policy, and coordinate the implementation of planned, integrated, and comprehensive disaster management within the framework of the local regulation.

Through the issuance of Government Regulations in Lieu of Laws (Peraturan Pemerintah Pengganti Undang-Undang/Perpu) Number 2, 2005 in regards to the Rehabilitation and Reconstruction Agency for NAD-Nias supported by Presidential Decree Number 34, 2005 in regards to the Organization and Procedures for Financial Rights Rehabilitation and Reconstruction Agency in NAD-Nias clearly stated that the rehabilitation and reconstruction including housing were executed by a special organization with the inclusion of local government and people (BRR & Partners, 2006). While Presidential Decree Number 9, 2006 regarding Rehabilitation Coordination Team and Reconstruction of Post-Disaster Areas in Yogyakarta Special Province-Central Java Province supported by Governor Regulation of Yogyakarta Special Province Number 23, 2006 about Operational Instructions for Rehabilitation and Reconstruction of Post-Earthquake in Yogyakarta Special Province also clearly instructed about executing the rehabilitation and reconstruction including housing by a special team using the same approach as it did in NAD-Nias (JRF).

Although it is claimed that the reconstruction constitutes as successful by the government, but the data said that there are still many people not satisfied with the permanent houses from the reconstruction project, and there are houses that did not comply with the standard. It can be assumed that it is because the National Agency for Disaster Management is not yet established, so the disaster management matters are carried out by National Disaster and Refugee Management and Coordination Board instead. This predecessor led by the vice president and comprising nine ministries and three government institutions. The shifting paradigm in disaster management to be preventive and resilient followed by the changes of the agency to the current one. However, there is a distinct mandate from the central government in managing and performing the rehabilitation and reconstruction, from local community-centered to more centralized. In the case of Central Sulawesi, the local government only perform the data collection and validation and also the exclusion of public figure from the process is another distinction. Thus, this research will focus on the practice of disaster management policy especially in housing reconstruction in Indonesia.

2.2 Disaster Resilience

Benedikter and Fathi's work about resilient society recognizes that resilience originated from Latin (*resilire*) means to bounce off (Benedikter & Fathi, 2017). The idea of resilience first appeared back in the 1950s by Emmy E. Werner, a developmental psychologist. Resilience means the ability to endure, obstinacy or robustness, commonly used in psychology and educational science since the 1970s. The concept gained more attention from corporates in the US and Europe in the 1990s in the context of the organization's standards to bear the unpredictable crisis. In today's condition, the concept of resilience presents in the middle of complex challenges because of its interdependency such as natural and man-made hazards, so that the resilience concept itself is multi-disciplinary and context. The idea of resilience in sustainability discourse has been translated into the competence of a system to survive in a crisis by using its resources for self-developing and improvement (Benedikter & Fathi, 2017).

The term vulnerability has been used in social and political science to express the incapability to deal with the harms of the challenges (Benedikter & Fathi, 2017). However, under this term, it means there is only one dominant narrative that existed: the long list of hazards that society needs to aware of. The concept of resilience would like to engage by providing a more flexible and integrative concept that makes society able to cope with the various harms and uncertainties. In other words, there is a demand regarding response in a positive way to the multifaceted problems in the current world, instead of accepting the problems in a negative perception (Benedikter & Fathi, 2017).

There are four major schools of resilient society depending on its challenges and perceptions (Benedikter & Fathi, 2017). The first one originated from security discourse which covers emergency preparedness, response, and systemic damage mitigation. This school was contributed by the Foundation for Resilient Societies in the U.S. and Loughborough University in Great Britain. It focuses on the durability enhancement of the technologically operated smart infrastructure of big cities in dealing with disasters. Second, an innovation-oriented school focusing on risk adjustment and disaster transformation. The key point of this school is that the distribution of the risk into the broader network than concentrating on one vulnerable point. It refers to the

exchange of experts from different areas, levels, and dimensions to harmonized society over a fast-changing environment by influencing social and technological change. The third school is the stocktaking analysis based. This school aims to produce a measure to transform natural social resilience into more practical recommended action. The last school will be more on liberation technology and participatory technological innovation. It refers to the notion of the involvement of multi-actor, multidimensional, and multi-level in creating a resilient society, under the perception that knowledge can come from everywhere (Benedikter & Fathi, 2017).

Concluding the four dominant schools in resilient society, it would like to say that four of the school offer a different background, thus creating a different perspective and generating a different way of engaging with a resilient society. The first school tends to be a more government-centric and Top-Down Approach since it takes the security discourse as the basis. The second one, concentrating more on the power of a community network. While the third one will be more on the scientific approach as it relies more on data availability in pursuing a resilient society. The last one relies more on the power of the individual in pursuing a resilient society. They believe that the idea of a resilient society can be achieved through self-studying than directed by certain entities such as international organizations, national governments, and others.

Governance and Social Development Resource Centre (GSDRC) from the Department for International Development (DFID) of Birmingham University defined resilience framework into four core elements in examining resilience (Department for International Development [DFID], 2011):

1. Context:

DFID believes that resilience should be contextualized. Meaning that it should answer the basic question: resilience of what? For example, it is about resilience at an individual level, or community, or state. It could be in disaster in general or specifically talks about gender in disaster. It could also talk about the process or the system at a certain level, dimension, and actor.

2. Disturbance:

It can be classified into two forms of disturbance: shock (a sudden event attacking the vulnerability point and its component) and/or stress (a long-term trend

that most likely coming from put-a-side things and finally accumulated and becomes a vulnerability point).

3. Capacity to deal with the disturbance:

Based on three things:

1) Exposure to the risk: magnitude and frequency of the disturbance
2) Sensitivity: how far does the disturbance affecting
3) Adaptive capacity: actors' capacity to adjust to the disturbance

4. Reaction to disturbance:

Refer to the degree of a possible scenario in responding to the disturbance. It can be classified into four levels:

1) Bounce back better: refer to a situation when the system successfully deals with the future shock and/or stress
2) Bounce back: the system successfully recovers from the shock and/or stress but only brings the situation back to normal
3) Recover but worse: the system reducing its capacity in dealing with the shock and/or stress
4) Collapse: the system cannot deal with the shock and/or stress and increase its vulnerability instead

While the term resilience has been used since the 1970s in disaster-related studies (UNDRR, 2015b). It is also believed to be the opposite concept of vulnerability. Resilience becomes important in disaster studies because it is related to the identification of principles and measures taken to maintain the development from the shocks or stresses. It refers to the strength of an exposed system, community, or society towards hazards to withstand, capture, sustain, adapt, transform, and recover from the impact of hazard at the right time and adept manner (UNISDR, 2017; DFID, 2011). It includes the protection and revival of its vital basic structures and function through risk management (UNISDR, 2017). In the other perspective, it could also mean preparing, programming, and decreasing disaster risk to effectively conserve people, communities, and countries, as well as the livelihood, health, cultural heritage, socio-economic assets, and ecosystem (UNDRR, 2015b). UNISDR (2005) define disaster resilience as the ability of individuals, communities, a public and private organization in organizing themselves to learn from experience and reduce their degree of exposure to the future

hazards at the international, regional, national and local level will determine the degree of the resilience (UNISDR, 2005).

Resilience should be regarded as a process rather than results because it involves adaptation, learning, improvement, and anticipation in basic infrastructures, actors, and functions (UNDRR, 2015b). An effective approach to resilience would be risk management, because it is a holistic approach that assessing systems and their relations, emphasizing capacities to manage hazards, help to explore options to cope with uncertainty, shocks, and changes, focus on being proactive (UNDRR, 2015b). A resilient approach to DRR includes the enhancement of cooperation and harmonization of the program, investment in a proactive long-term project, and aligning DRR with another risk-based intervention (UNDRR, 2015b). In measuring the extend of resilience in society, there are features of resilience society, they should be able to (UNDRR, 2015b):

1. Anticipate risk: the ability to understand and appraise the risk
2. Back-up the decision-making by any measures possible to encounter the uncertainty of the future's risk
3. Improve adaptivity through information, and experiences
4. Sectors' integration through inclusive dialogue and management
5. Inclusive to the most vulnerable by managing risks at all levels, integrative decision-making, and includes the weakest part

Disaster resilience has interlinked with disaster risk reduction (Combaz, 2014; UNDRR, 2015b). It is perceived that disaster risk reduction is the main tool to achieved disaster resilience. It was Hyogo Framework for Action 2005-2015 as the first internationally recognized ambition in reducing the disaster risk which advocates disaster risk reduction and disaster resilience. Furthermore, disaster resilience as an interdisciplinary approach has become common ground in policy-making discourse concerning disaster risk reduction. It is also stated that the lens of disaster resilience has also made disaster risk reduction become less politic and involving a wider actor beyond government and state (Combaz, 2014).

Disaster Risk Reduction (DRR) is more about the policy objective of anticipating and reducing risk. While Disaster Risk Management (DRM), though it can interchangeably with the DRR, DRM is more on the implementation of DRR or the

action that aims to attain the objective of the policy (UNDRR, 2015a). The objective of DRM is that upgrading the resilience of people, community, society, system to withstand, capture, sustain and recover from and enhance well-being in facing hazards (UNDRR, 2015a).

DRR has a long story of dealing with the disaster which relies on emergency response. Towards the end of the 20th Century, disaster perceived as no longer natural events (UNDRR, 2015a) and began from the dominant narrative about dealing with the uncontrolled and unpredictable event (disaster) that is a response-based approach (IDB, 2015). Therefore, prevent losses and alleviate the impact of the hazards, in which the severity cannot be decreased, can only be done by decreasing and organizing the condition of hazards exposure and vulnerability. In this sense, it requires identification and decreasing the key factor of the risk which includes poor economic and urban development choice and practice, degradation of the environment, poverty and inequality, and climate change. Latin America Network of Social Studies in Disaster Prevention for the last 20 years has believed in an alternative and complementary conception to coup with disaster: prevention and mitigation of risk-oriented policy (IDB, 2015). It addresses the minimum to no consideration on latent conditions (vulnerability) which cannot be decreased when the disaster comes and later on leads to possibilities of losses and damages: pre-disaster risk.

Mitigation and prevention of risk are considered social processes (IDB, 2015). It involves the calculation of the probability of hazardous event occurrence in a certain time and place in a social context as well as social stakeholder, or simple words, it is called vulnerability as a latent risk. It comprises of building construction, undesirable location of private and public infrastructures, messed up cities' growth, economic insufficient, finance, and management resilience, the devastation of a natural ecosystem that conserve and live the population (IDB, 2015).

The ultimate objective of the DRR is to maintain the sustainability of development (UNISDR, 2015). Meaning that DRR is one of the components of sustainable development itself. It also involves all layers of the people, government, non-government organizations, professionals, and private. Therefore, DRR performed a people-centered and multi-sector approach to deal with multi-layers and interconnected hazards by initiating the prevention and resilience culture. Also,

Disaster Risk Management is perceived as permanent development and transformation strategy rather than a mere project for certain policies and instruments of development and/or territorial (IDB, 2015). Under the mitigation and prevention of risk-oriented policy, the Disaster Risk Management would like to intervene in the upcoming disaster by either correcting or mitigating the risk to get a minimum impact in the aftermath. Inherently, in performing DRM it contains below strategies (UNISDR, 2015):

1. Avoid the creation of new risk
2. Dealing with the pre-existing risk
3. Distribute and circulate the risk to hinder disaster losses being captured by other development results and making additional poverty

The favorable DRR outcomes are coming from the combination of top-down institutional changes and strategies with bottom-up, local, and community-based approaches (UNDRR, 2015a). There is no “one size fits all” approach to DRM (UNDRR, 2015a). However, there are many approaches and frameworks which have been proven to be effective to decrease disaster risk (UNDRR, 2015a). Risk Reduction activities include four components (UNISDR, 2017):

1. Prevention refers to any measures taken to prevent the existing and new disaster risks. For example, a relocation for those who live in a disaster-prone area
2. Mitigation, degrading or limiting the detrimental effect of hazards and related disasters. For example, is enforcing the land use and spatial planning law in developing a city
3. Transfer refers to any formal or informal procedures altering the financial consequences of certain risks from one party to another. For example, insurance from that possessed by households, communities, or any parties who are affected by the risk of the disaster
4. Preparedness refers to the ability and capacity of the government, professional response and recovery organization, communities, and individuals to adequately anticipate, respond, and recover from the current or soon-to-be hazard impact. For example, the development of early warning systems, evacuation plans, etc.

Build Back Better Approach

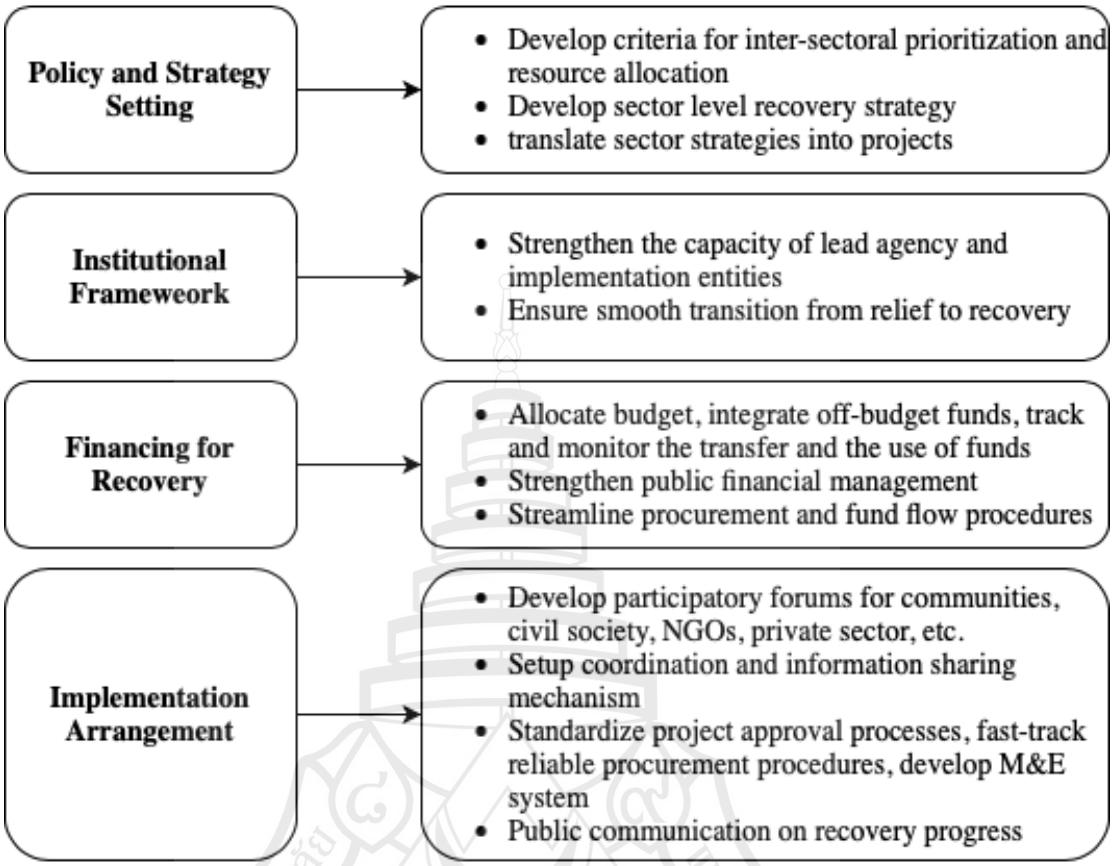
As directed by Sendai Framework, a consistent hike of disaster and the disclosure to the people and assets, signify the urgency to intensify disaster preparedness, anticipation, incorporate disaster risk reduction in preparedness and make sure that the capacities for effective response and recovery are existed (UN, 2015). Having a noble goal to inhibit and curtail peril disclosure and susceptibility to disaster, intensify readiness for reaction and recovery to bolster resilience, Sendai Framework highlighted that Build Back Better is prominent in bracing for disaster which should be taken as a measure in rehabilitation, recovery, and reconstruction phase. The guiding principles of the Sendai Framework also urge that the obligation to forestall and lessen the disaster risk is in the hand of the state, including but not limited to assure people and its assets, health, livelihoods, advocate and protecting human rights and right to development (UN, 2015).

Many pieces of literature about Build Back Better stated that the rise of the Build Back Better Approach for post-disaster was after the Indian Ocean earthquake and tsunami in 2004 (Mannakkara & Wilkinson, 2014; Maly, 2017). It was William J. Clinton, the United Nations Secretary-general's special envoy for tsunami recovery who brought this idea. This approach would like to address the post-disaster action issue (i.e., recovery and reconstruction practices) which lingers in insufficient and unwell management (Mannakkara & Wilkinson, 2014; Clinton, 2006). Commonly, the post-disaster action concluded in an immediate fixing of the material loss due to the disaster, hoping that the community can start over their life as soon as possible. Nonetheless, many disasters have brought many lessons learned about the relation between pre-disaster and post-disaster conditions. Countless casualties, and huge material damage and loss were thanks to the pre-disaster condition such as living place construction in disaster-prone areas, unqualified materials, and design buildings, as well as illegal development of living place (e.g., slum area) (Mannakkara & Wilkinson, 2014). In other words, the common practice of post-disaster only recoups the same pre-disaster condition for both the community and the material thingy. This is not in line with the spirit of a resilient community, therefore, there is a need to improve the practice, one of the ways, by implementing the Build Back Better Approach.

Clinton further added that the Build Back Better Approach refers to enhance the community's physical, social, environmental, and economic situation in attaining a resilient community by applying the reconstruction measure (Clinton, 2006). Reconstruction is an arduous and extensive measure and includes many distinct elements, thus, the Build Back Better Approach also refers to a deep expansive approach for post-disaster engaging those frequent issues and make sure that the community is resilient for their future (Mannakkara & Wilkinson, 2014).

Sendai Framework sets Build Back Better (BBB) as the fourth priority of the action (UN, 2015). It is referred to utilize favorable circumstances in the recovery stage to expand the competency to reduce the disaster risk in the short, medium, and long term. It involves standard improvement in the land-use program, structural, and the sharing of proficiency, insight, post-disaster reviews, and lessons learned. Further, the post-disaster reconstruction should be combined with the economic and socially sustainable development in the affected area, and not limited to the temporary housing for displaced people (UN, 2015). At this point, Build Back Better is perceived as a strategy to integrate the post-disaster reconstruction with the preparedness stage as a means of prevention. It involves two constituents: the material (structural and land-use standard improvement) and the immaterial (proficiency, insight, reviews, and lesson learn).

Global Facility for Disaster Reduction and Recovery (GFDRR) defines Build Back Better as a scenario to subtract susceptibilities to forthcoming disasters and establish community resilience (Figure 2.2) (Global Facility for Disaster Reduction and Recovery [GFDRR], 2017). It engages in physical, social, environmental, and economic and can be implemented for infrastructure, livelihood, and cross-cutting issue recoveries such as housing transport, education, health, commerce, employment, environment, gender, etc. GFDRR also develops a recovery framework by dividing it into four categories which are the policy strategy setting, institutional framework, financing for recovery, and implementation arrangements. The framework focuses more on the stakeholder positions, and involvement of the local community in executing the recovery process (Global Facility for Disaster Reduction and Recovery [GFDRR], 2015).



Source GFDRR (2015)

Figure 2.2 Disaster Recovery Framework Flowchart

JICA, further, treats BBB as a motto and an approach (JICA, 2017). As a motto, it would like to send narratives about a spirit to revive after facing a devastating situation. It is expected that the people and authorized bodies could learn from the situation and rebuild the system and infrastructure better than the pre-condition to be prepared for the upcoming disasters. As an approach, BBB would like to address the unfortunate states which have a limited capacity in investing in disaster risk reduction efforts. JICA acknowledges that disaster risk reduction, which emphasizes preventive measures, costs a lot and sometimes often found difficulties in providing the minimum standard of preparation. Then BBB approach is presented as one of the ways to resolve it. It focuses on turning the reconstruction phase of the devastating situation into mitigation and preparedness phases to prevent from repeating the same susceptibilities.

The state will utilize the available sources in the reconstruction phase to make the system and infrastructure more disaster-resilient (JICA, 2017).

Going deeper on characterizing BBB, in his report, Clinton proposes ten key issues in regard to BBB as an attempt in providing a guideline for a better comprehensive BBB approach (Clinton, 2006):

1. Governments, donors, and aid agencies requisite to concede that families and communities spur their recovery
2. Recovery shall advocate fairness and equity
3. The government shall strengthen the preparedness for forthcoming disaster
4. Local governments shall be entitled to administer recovery exertion, and donors shall dedicate larger capital to toughen government recovery institutions, especially at the local level
5. Pleasant recovery preparation and persuasive arrangement contingent upon solid data
6. The UN, World Bank, and other multilateral agencies shall define their position and connection, specifically in focusing on the initial stages of a recovery measure
7. The extending position of NGOs and the Red Cross/Red Crescent Movement bears greater authorities for capacity in recovery exertion
8. Since the beginning of recovery work, government and aid agencies shall construct the circumstances for the entrepreneur to develop
9. Beneficiaries are entitled to the kind of agency cooperation that operate ahead of the race and detrimental competition
10. Pleasant recovery shall be sure that the community is harmless by degrading risks and establish resiliently

In short, the main point of Clinton's proposition stress on the role of stakeholder (i.e., government, local government, NGOs, INGOs, and aid agencies), risks subtraction, and community involvement. Mannakkara and Wilkinson noted that there are approximately seven other works on the BBB approach in recovery and reconstruction namely (Mannakkara & Wilkinson, 2014):

1. "*Principle for Settlement and Shelter*" by United Nations Disaster Relief Organization

2. "*Post-Tsunami Recovery and Reconstruction Strategy*" by The Government of Sri Lanka

3. "*Rebuilding for a More Sustainable Future: an Operational Framework*" by Federal Emergency Management Agency

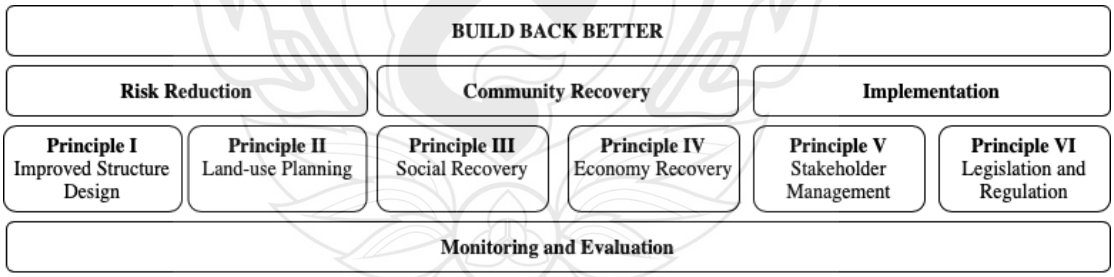
4. "*Holistic Recovery Framework*" by J.L. Monday

5. "*Bam's Reconstruction Charter*" by Bam's Reconstruction Supreme Supervisory and Policy-making Association

6. "*Recovery and Reconstruction Framework*" by Victorian Bushfire Reconstruction and Recovery Authority

7. "*Recovery Strategy*" by Christchurch Earthquake Recovery Authority

There are three dominant concepts used in those seven mentioned guidelines, which are community deliberation and recovery by the community, lowering the susceptibilities, and local-based solutions (Mannakkara & Wilkinson, 2014). From the above-mentioned propositions by Clinton and the dominant concepts used by most of the existing BBB guidelines, a framework identifying the suggestion contained in the existing literature to enhance the practice of BBB in post-disaster has been developed.



Source Mannakkara and Wilkinson (2014)

Figure 2.3 Build Back Better Framework

There are four categories and eight principles which can best characterize BBB according to Mannakkara and Wilkinson (Figure 2.3). The four categories are risk reduction, community recovery, implementation, and monitoring and evaluation. The

eight principles, as a sub-category which refers to conditions to attain the main category, consists of improving structure design, land-use planning, social recovery, economic recovery, stakeholder management, and legislation and regulation. The presence of this framework is meant to engage in the unnoticed commonly experienced issues while looking at the whole picture of numerous aspects concerned in post-disaster recoveries such as managing and connecting the actors involved to prevent work replication and generate efficient results as it is found in a Victorian bushfire, and Sri Lanka earthquake and tsunami. Besides, the framework could also be used as the beginning of proposal development to enhance the relevance of BBB concepts in the three categories and presented as a model to map out post-disaster recovery procedures, and reconstruction and recovery proposals (Mannakkara & Wilkinson, 2014).

At this point, since the first appearance and usage of the BBB approach in post-disaster recovery exertion, the approach has evolved and developed. As a holistic approach to post-disaster recovery, the BBB approach is perceived as an excellent practice aiming to accommodate the interest from various actors and its position for one noble objective: preparing the currently affected people to be more resilient for the upcoming disasters. Nonetheless, the relations between the BBB approach and housing reconstruction seems not going well. Elizabeth Maly (2017) perceived that the BBB approach as both too wide and too narrow (Maly, 2017). Too broad because the BBB approach is trying to engage in all aspects related to post-disaster recovery so that it turned to be a vague concept. In opposite, the BBB approach is claimed only to legitimize prerequisites for specifically approved house designs to be implemented or to move the affected resident into a newly appointed area but neglecting the livelihood impact (Maly, 2017).

By studying three housing reconstruction cases, post-mount Merapi eruption in Indonesia, post-typhoon Yolanda in the Philippines, and post-great east Japan earthquake, Maly proposes a "*People-Centered Housing Recovery*" as a complementary basic principle to BBB approach aiming to get better results of post-disaster recovery for the affected people, especially in housing reconstruction (Maly, 2017). According to Maly, the thought of making people at the center of the housing decision-making has been started in the 1970s. To date, international development practice also developed under the same assumption as well as many other international documents in housing

reconstruction. This makes the people-centered direction getting more spotlight. Maly stated that the people-centered housing recovery concept shall include three principles (Maly, 2017):

1. Housing recovery policy shall support livelihood recovery
2. The recovery process shall involve the affected people in the decision making
3. The house design and construction shall fit the affected people need

Apart from the above-mentioned principles, the approach also applied to three scopes: house, community, and policy (Maly, 2017). The housing reconstruction practice post-mount Merapi eruption in 2010 concluded as the only practice, among the three, to implement the people-centered housing recovery approach in all three scopes. To address approximately 3,000 destroyed houses, the Indonesian government implemented Community-based Rehabilitation and Reconstruction Settlement (Rehabilitasi dan Rekonstruksi Masyarakat dan Permukiman Berbasis Komunitas [REKOMPAK]) as the legacy from the previous post-disaster practice. At this method, the affected people are involved in the planning, site and community design, and community-based reconstruction. The government also showed support by providing experts and facilitators for people who wanted to rebuild their houses on the same or the newly self-collected site in the non-hazardous area. By default, the government provided a house standard design that is 36 square meters expansible house. The prospective occupant could decide to expand or modify as well as configure their own house. A support to those groups of people who establish their resettlement sites and support combined with the non-government donors was presented (Maly, 2017).

With two employers working on housing reconstruction in the Philippines, the government through National Housing Authority (NHA) and the NGOs' support, makes this case become partially attaining the people-centered housing recovery (Maly, 2017). It is because the development under NHA tends to exclude the affected people from all scales, and the opposite situation under NGOs' support. Aiming to provide a safer house for the people, approximately more than 13,000 houses were executed by developers, using 22.5 square meters standard townhouse design with a minimum configuration option for the prospective occupant. Centralized in government authority and developers, people were excluded from the process, unlike the program under the

NGOs' support. Approximately 500 houses were constructed, people were involved since the beginning. The program focused more on the house establishment with the fulfillment of the livelihood needs (Maly, 2017).

In Japan, houses were given to the affected people from the great east Japan Earthquake in Tohoku for social welfare (Maly, 2017). There were 30,000 public houses and 19,500 lots of private houses planned to be provided by the government. The restricted option was provided for the affected people, either private rebuilding by leasing or purchasing a lot from the collective relocation project or simply by their own or public house by choosing the area that they want to move to. The government attempted to fits the affected people's needs, for example by matching the size of the family and its occupation with the size of the house and its configuration. Albeit the options were there, Maly believed that the program still excludes people in the planning, design, and decision-making process. Therefore, Japan's case is perceived as the case with the least compliance to the people-centered housing recovery principles (Maly, 2017).

In conclusion, the Build Back Better Approach is to date the holistic approach to post-disaster recovery practice that the world trying to implement. It has the aim to prepare the affected people in the current situation to be more resilient in responding to the upcoming disaster, by turning the recovery stage into preparedness. In terms of the housing recovery, the people-centered direction is added to make sure that the recovery experienced by the affected people, not only going to make the people resilient in terms of their physical needs but also psychologically.

2.3 The Development of Disaster Management in Indonesia

Understanding the increasing trend of disaster occurrence and the exposure to the economy and the people is getting more massive, the world has committed to reducing the losses both in material and human lives (JICA, 2017). Some notable formalized disaster risk reduction events including the designation of the 1990s as the International Decade for Natural Disaster Reduction (IDNDR) by the United Nations (UN) General Assembly. The world's first global Disaster Risk Reduction (DRR)

strategy was approved at the World Conference on Natural Disaster Reduction in 1994, holds the Yokohama Strategy and Plan of Action for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness, and Mitigation as the prominent outcome. Then in 2005, the Second World Conference on Disaster Reduction in Hyogo produced Hyogo Framework for Action 2005–2015 (HFA). As the trend of disaster occurrence getting more intense, and its exposure to the people and economy getting more severe, Sendai Framework for Disaster Risk Reduction 2015–2030 in the Third World Conference on Disaster Risk Reduction held in Sendai, Japan in 2015 continuing the effort of the HFA. The Sendai Framework has set four priorities for action and seven global targets aiming to substantially decrease the disaster risk and loss of lives and livelihoods (JICA, 2017).

As previously mentioned, the Indonesian constitution in 2007 about disaster management has made disaster management in Indonesia shifted from response-oriented to be more preventive-oriented in executing the program. Disaster management in Indonesia refers to a series of activities, including the stipulation of development policies that are at risk of disaster occurrence, disaster prevention, emergency response, and rehabilitation. Whilst, defining disaster as events or episodes that threaten and disrupt people's lives and livelihoods caused by natural and/or non-natural and human factors, causing the loss of human life, property, environmental and psychological damage.

In general disaster management in Indonesia operates based on Pancasila and the Constitution of the Republic of Indonesia 1945, includes humanity, justice, equality in law and governance, balance, conformity, and harmony, order and legal certainty, togetherness, environmental sustainability, and science and technology. Central and local government responsible for disaster management activity to:

1. Protect people from disaster threat
2. Align the existing laws and regulations
3. Ensure the implementation of disaster management in a planned, integrated, coordinated, and inclusive manner
4. Respect local wisdom
5. Develop public and private participation and cooperation
6. Empower cooperation, solidarity, and generosity spirit

7. Establish peace in the community, nation, and state

National and Local Agency for Disaster Management, accordingly, is authorized to stipulate disaster management policy following its development policy, make development plans with the inclusion of disaster management elements, determine partnership policy with other states, institutions, or international entities, formulate the use of technology with threats or disaster potency policy, formulate policies about the prevention of monopoly and over-use natural resources beyond nature's limit to self-recover, and control the collection and distribution of money and goods. From those five authorities, only the central government can determine the status and level of disaster in the national and local areas.

The central and local governments responsible for funding disaster management activity accordingly in national and local budgets sufficiently. Especially in the national budget, the fund will be in a form of a ready-to-use budget allocated to the National Agency for Disaster Management, understanding that the disaster can occur everywhere, and anytime.

Disaster management activity in Indonesia and its institutional history was begun since the independence of the country in 1945 (BNPB, n.d.). In total, there are eight times changes (development) in the disaster management institution, following the time and situation context which contributes to formulating the disaster management paradigm in Indonesia.

1. Three days after Independence Day, 20 Agustus 1945, War Victim Family Relief Agency (Badan Penolong Keluarga Korban Perang [BPKKP]) was established. The organization focus on assisting the war victim and their family during the independence war.

2. The issuance of Presidential Decree Number 256 in 1966 assigned the Ministry of Social as a responsibility taker for Natural Disaster Management Consideration Agency (Badan Pertimbangan Penanggulangan Bencana Alam Pusat Central [BP2BAP]). The focus of this organization was the management of emergency response and assist the disaster victims. The legal basis and the organization marked the changes in Indonesia's disaster management paradigm to not only engage in human-made disasters but also natural disasters.

3. National Natural Disaster Management Coordination Team (Tim Koordinasi Nasional Penanggulangan Bencana Alam [TKP2BA]) was formed through the issuance of Cabinet Presidium Decision Number 14/U/KEP/I/1967 in response to the needs of coordinated and more serious disaster management due to the increasing intensity of the disasters.

4. National Disaster Management Agency (Badan Koordinasi Nasional Penanggulangan Bencana Alam [Bakornas PBA]) was an upgrade version from its predecessor. Established by the issuance of Presidential Decree Number 28 in 1979, supported by Minister of Home Affairs Instruction Number 27 in the same year. Covering prevention, emergency response, and rehabilitation on its activity, the Coordination Unit for the Implementation of Natural Disaster Management was also formed in each province.

5. Through the issuance of Presidential Decree Number 43 in 1990, the Indonesian government recognized that disasters not only coming from nature, but can also be social, transportation accidents, technological failure, and social conflict. National Disaster Management Agency (Badan Koordinasi Nasional Penanggulangan Bencana [Bakornas PB]) was the enhancement of the previous organization. Reiterated in Presidential Decree Number 106 the year 1999, the organization focus on natural and non-natural disasters. Furthermore, the Indonesian government also realized that disaster management requires coordinated cross-sectoral, cross-actor, and cross-disciplinary handling.

6. The multidimensional crisis in the late 1990s faced by Indonesia resulted in a dispersed social disaster that needs a more specific approach. National Coordination Agency for Disaster and Refugee Management (Badan Koordinasi Nasional Penanggulangan Bencana dan Penanganan Pengungsi [Bakornas PBP]) was established through the Presidential Decree Number 3 in 2001 which then amended by Presidential Decree Number 111 the year 2001.

7. The Great Indian Ocean earthquake and tsunami, and the issuance of Presidential Decree Number 83 the year 2005 have made the National Disaster Management Agency (Badan Koordinasi Nasional Penanganan Bencana [Bakornas PB]). Functioned as a coordination agency, supported by the acting executive as the element of disaster management, the risk reduction paradigm was mainstreamed.

8. Finally, taking deeper and further concern on disaster management, Constitution Number 24 regarding Disaster Management was issued in 2007, and following in a year letter, Presidential Regulation Number 8 about National Agency for Disaster Management. This organization functioned as a coordination agency for the implementation of disaster management activities in a planned, integrated, and comprehensive manner. The National Agency for Disaster Management comprising the chief, director, and executive of disaster management.

The latest organization reflected the seriousness of the Indonesian government concerning disaster management activity, especially related to the legal basis, institution, and budgeting matters. In to date situation, Constitution Number 24 regarding Disaster Management and Presidential Regulation Number 8 about National Agency for Disaster Management are the two legal bases for disaster management in Indonesia, which recognize three stages of disaster management: pre-disaster (no disaster and potential disaster situation), emergency response (quick and precise studies upon the location, damage, and resources, determining disaster emergency status, rescue and evacuation of affected people, basic needs fulfillment, protection to the vulnerable groups, and infrastructures and facilities immediate recovery), and post-disaster (rehabilitation and reconstruction). As the research would like to analyze the implementation of Build Back Better strategy in housing reconstruction, therefore, the discussion will focus more on rehabilitation and reconstruction, specifically housing reconstruction in Indonesia.

2.3.1 Rehabilitation and Reconstruction Policy in Indonesia

There are three laws concerning the implementation of rehabilitation and reconstruction: Constitution Number 24 regarding Disaster Management, Government Regulation Number 21, 2008 regarding the Implementation of Rehabilitation and Reconstruction, and Chief of National Agency for Disaster Management Regulation Number 6 about the Implementation of Rehabilitation and Reconstruction. The existence of those laws is not meant to overlap each other, but to complement instead.

According to disaster management law in Indonesia, rehabilitation activity refers to recover and restore all elements of public or community services to a sufficient level in affected areas aiming to normalize or properly running of all government and

community life aspects in the affected area. Meanwhile, reconstruction is identified as building back all infrastructures and facilities in the governance and community, having an aim to the growth and development of the economic, social, and cultural activity, maintaining law and order, and the revival of people's participation in all life aspects in the community on the affected area. Systematically, rehabilitation and reconstruction activities include post-disaster needs assessment, the formulation of rehabilitation and reconstruction plan, resource and fund allocation, the implementation of rehabilitation and reconstruction, and monitoring, evaluation, and report.

There are eight principles in running the rehabilitation and reconstruction program:

1. Develop participation
2. Prioritize coordination
3. Performing good governance
4. Maintain continuity
5. Implementing the development gradually according to the priority list
6. Building back better and safer based on disaster risk reduction
7. Improve capacity and independency
8. Mainstreaming gender equality, vulnerable group, disabilities, and justice

The rehabilitation and reconstruction implementation policy shall be integrated with the national and/or local development plan and spatial plan professionally by performing good governance. The strategy in implementing the program comprises improving coordination, utilize resources and funds, and building effectiveness and good governance. National and/or Local Agency for Disaster Management are responsible for the implementation of rehabilitation and reconstruction. If necessary, a temporary special coordination team can be established for a maximum of three to help the National and/or Local Agency for Disaster Management. The establishment shall be stipulated in the Chief of National Agency for Disaster Management Decision on behalf of the president and/or chief of local government under two conditions: scope and impact of the disaster, and capability and capacity of the resource in the local.

In rehabilitation, there are ten activities and sectors highlighted in the law and the local government has to make prioritization to expedite the rehabilitation progress based on the calculus of cost and damage without neglecting the people's aspiration:

1. Environment
2. Infrastructures and facilities
3. Giving house reconstruction assistance
4. Social psychology recovery
5. Health service
6. Conflict reconciliation and resolution
7. Social, economic, and cultural recovery
8. Security and order recovery
9. Governance function recovery
10. Public services recovery

Aside from the cost and damage calculation, the prioritization process should also consider building construction standard regulation, social conditions, customs, culture, and economy. During carrying out the program, the local government shall use the local budget. In case of an insufficient fund, they can request support from the higher authority after passing validation and verification from the inter-department/institution coordinated by the National Agency for Disaster Management. Nonetheless, it is also possible for the local government in the affected area to request another form of support: experts, tools, and the construction of infrastructures.

Meanwhile, in reconstruction, there are eight activities and sectors highlighted in the law, that the prioritization should be formulated based on the cost and damage calculation like the rehabilitation.

1. Restoring infrastructures and facilities
2. Restoring the people's social infrastructures
3. The revival of the people's social and cultural live
4. The implementation of appropriate design and the use of better and disaster-resilient equipment
5. Participation of society's institutions and organizations, the business community, and the people
6. Improvement of social, economic, and cultural condition

7. Improvement of public service function
8. Improvement of main services in society

Six things should be considered in formulating the prioritization by adding the spatial plan with the other five. In terms of difficulties in implementing the program, it applies the same procedure as rehabilitation.

Going more practical, in the Chief of National Agency for Disaster Management Regulation Number 6 about the Implementation of Rehabilitation and Reconstruction, it is stated about the build back better and safe. It defines as the rehabilitation and reconstruction effort in building back, both the cost and damage due to disaster, shall be conducted to be better and safer as well as guided by the effort to reduce disaster risk in the future. The rehabilitation and reconstruction should be conducted based on post-disaster needs assessment (pengkajian kebutuhan pascabencana/jitupasna), which is the impact assessment and analysis, estimated needs, and initial recommendation upon recovery strategy that become the basis of post-disaster rehabilitation and reconstruction plan. The plan is formulated together with the National/Local Agency for Disaster Management, ministerial/institutions, local government officials, stakeholders in a certain period.

The implementation shall be performed based on the constitution and existing regulation, masterplan, and its entitled authorities of each involved institution and organization. Since the implementation of rehabilitation and reconstruction shall be based on jitupasna, and rehabilitation and reconstruction plan, therefore, in time of evaluation, monitoring, and report, it is applying the same documents and involved actors.

2.3.2 Housing Reconstruction Policy in Indonesia

For housing reconstruction, it refers to the specific law that is the Chief of the National Agency for Disaster Management Regulation Number 4 the year 2013 concerning Post-Disaster Housing Sector Rehabilitation and Reconstruction Technical Guidelines. Looking at the development of this specific issue, this law is the first time that the government of Indonesia, in this case, the National Agency for Disaster Management, has the general guideline in the housing sector. They use a specific law to address the previous housing reconstruction in Mentawai, West Sumatera, and

Yogyakarta. The enactment of these technical guidelines, therefore, made the previous guideline in rehabilitation and reconstruction for the housing sector no longer applicable.

In the general definition part, the first thing that should be highlighted is that the housing assistance fund. It refers to fund assistance from national or local government and directly received by the affected people to build permanent housing. Next, is permanent housing means a house built by people's community (Kelompok Masyarakat/pokmas) funded by social assistance fund in the form of a grant. While people's community is defined as the organization of the people into post-disaster residential development groups.

The basic principle in housing sector rehabilitation and reconstruction are:

1. The implementation of rehabilitation and reconstruction in the housing sector is the responsibility of central, local, and people
2. Permanent housing become a priority by utilizing the local resources
3. Attaining the effectivity and efficiency in building the permanent house through comprehensively integrating and synchronize resources
4. Implemented on time, planned, integrated, coordinative, and sustainable with local development planning
5. Building disaster friendly houses to integrated build back better using the disaster risk reduction concept

Generally, the housing rehabilitation and reconstruction shall be performed by concerning the affected people's voice as the prospective occupant and disaster risk reduction oriented. The policy on housing reconstruction addresses two ways of performing the in-situ recovery, refer to building the permanent house in the same location as the former one can be done using community empowerment, and ex-situ means the new place different from the former location can be performed both by community empowerment and contractual contingent upon the local government policy. The strategy of housing reconstruction for permanent housing can also use relocation, according to the local government policy. In using the relocation as a way to build permanent housing, the local government is entitled to provide the space as well as the fulfillment of the supporting infrastructures and facilities. It is also possible for donors/non-governmental organization/civil society organization to get involved

under the same paradigm and principles (if approved by the local government) by contributing to the improvement of housing sector development implementation capacity, rehabilitation, and reconstruction on people's housing infrastructures (e.g. sanitation, drinking water, environmental quality), disaster friendly housing design using local wisdom approach, improving the skills of the rehabilitation and reconstruction executive and the community based on local wisdom, rehabilitation and reconstruction programs and activities dissemination and socialization on the settlement sector.

The law set the targets of housing reconstruction as follow:

1. The fulfillment of the damaged community houses reconstruction with the compliance to earthquake-friendly housing design with certificates issued by the relevant Technical Department
2. The establishment of a community in the targeted location that is expected to be able to perform rehabilitation and reconstruction of permanent housing development
3. The presence of the interaction process between people in overcoming shared problems and fostering social solidarity that is conducive to building the community
4. The establishment of local wisdom in the community following the existing cultural potency

For the indicator, there is only one stated in the law, that is the construction of permanent housing and its infrastructures as well as being inhabited by housing fund assistance beneficiaries. Housing assistance fund can be implemented in two mechanisms: community empowerment or contractually to third parties by the Local Agency for Disaster Management at District/City or Provincial level if Provincial-Local Agency for Disaster Management is entrusted to implement. Meanwhile, only those who have fulfilled the below criteria can get the housing fund assistance from the government:

1. Having legitimate prove of the damaged (heavy, medium, light) or lost house caused by disasters
2. In the case of the family having more than one houses, the government assistance only applicable to one house

3. In the case that the head of the family dies, the heir is only entitled to get a replacement of one permanent house, although the heir is more than one person

4. Housing fund assistance is given to household who have not and are not in the process of getting permanent housing assistance from other funding sources

5. For those who have rebuilt their house at their own expense, but the buildings have not met the Ministry of Public Housing Minimum Service Standards and the Ministry of Public Works Earthquake Resistant Building Strength standards, the building must be demolished or strengthened, and rebuilt in the same location based on the person in charge of operations on permanent housing reconstruction recommendations. The amount of assistance is the same as the applicable regulation

On the project management side, when it is using the contractual scheme, the technical planning and construction work is performed by the Local Agency for Disaster Management at the district/city level and the supervision is performed by the Local Agency for Disaster Management at the Provincial level. The activities include technical planning activities, construction work, and supervision consulting services. The payment term and handover conditions will be stipulated in the agreement between the third party and authorized body e.g., National/Local Disaster Management Agency and the Local Government.

On the other side, if it uses community-based reconstruction, then the assistance fund is given in the form of direct assistance to the community/community groups (POKMAS) under the management of the Provincial Government or District/City Government by the applicable conditions and policies. Assistance and supervision will be performed by the Provincial Government. The distribution condition and policies written as in Table 2.1.

Table 2.1 Housing Assistance Fund Distribution Phase Using Community Group Approach

Distribution Phase	Conditions
Phase I (40%)	Physical progress at 0% with: 1. The targeted location is clear; the land has been cleared (land clearing) per the District's Decree regarding the appointed location under the designation of permanent housing name 2. Each member of the community group makes a legal stamped commitment statement on the ability to build permanent housing from the housing assistance fund
Phase II (30%)	Physical progress of at least 20% have been installed or funds absorption amounted to 80% of Phase I funds that have been examined by the facilitator, community assistance team and approved by the person in charge of operations on permanent housing reconstruction
Phase III (30%)	Physical progress of at least 50% have been installed or funds absorption amounted to 80% of Phase I and Phase II funds that have been examined by the facilitator, community assistance team and approved by the person in charge of operations on permanent housing reconstruction

There are three steps in implementing the housing rehabilitation and reconstruction: socialization and training to the community groups, facilitator, community assistance team, preparation which includes surveys and detail technical designs, and the implementation itself. The community groups, assisted by Management Consultant or Individual Consultant, can choose the housing prototype. However, the law states only 36 square meters' house model permitted to be built in addressing the safer and disaster-friendly construction. The law also requires providing supporting infrastructures such as streets, bridges, drainage, clean water facilities and infrastructure, and household waste management facilities and infrastructure. General technical specification for the permanent house is ruled as follow:

1. House footing shall be constructed on stable land, and not backfill. If it is above the backfill soil, it must be compacted first, and the stability and strength of the soil must be checked

2. The footing must be a minimum of 60 cm depth or until the hardness soil standard according to technical specifications

3. The footing shall use rubble stone / local stone that meets technical requirements

4. Concrete iron for structures should have a minimum of ø 2 mm diameter and iron for stirrups/beugel minimum diameter of ø 8 mm per planning technical specifications

5. Column spacing must continue until the foundation

6. Sloof shall be anchored to the foundation using ø 12 mm concrete steel

7. A ring beam is attached which is fastened rigidly to the column

8. The entire framework of the building must be firmly and rigidly bound

9. The brick walls should be installed with 30 cm vertical distance anchors to the column

10. Every 12 square meters' wall area, practical columns/waist beam must be installed according to earthquake friendly building codes

11. The frame of the hanging truss, at the wooden connection knot, shall be given bolts and fastening plates

12. Concrete mixture 1: 4, for reinforced concrete 1: 2: 3 and rebate concrete 1: 3: 5

13. The wood material used for house construction must be dried wood class II equivalent to Meranti, or if using local wood must have a permit from the relevant agency

14. Asbestos and/or materials containing asbestos are prohibited from being used in the house construction

It can be concluded that the rehabilitation and reconstruction activity in Indonesia performs a decentralized line from the central government to the local government and the people. Besides, the affected people are also required to participate in the activity, even when it uses a contractual approach, though not many options on the planning and decision-making process remain. The build-back better strategy is also stipulated in the existing law. Nonetheless, it is in the form of very technical conditions, such as the condition of appointing a relocation location, house prototype, house construction design, and spatial planning. The law does not specifically address the

needs to address the livelihoods of the people, in the sense that the people can be relocated to the new place to avoid disaster-prone areas, using disaster-friendly house design, and many more under the idea of disaster risk reduction. But is that kind of activity that can best suit the life of the fishermen, or farmer, or any other occupation? Previously, it has been discussed about the complaint of the affected people regarding the temporary house that far away from their occupational location and other problems. The government also stated that they are trying hard to fit the rehabilitation and reconstruction with the people's aspirations. Therefore, the research should go further in the literature review, to the extent of asking directly the affected people about how they feel about the housing rehabilitation and reconstruction by their government so far.

2.4 Theoretical Framework

Concluding this chapter, to answer the research questions and achieving the research objectives, the theoretical framework is developed. This research will talk about the policy implementation approach in the rehabilitation and reconstruction policy in Indonesia using permanent housing reconstruction in Central Sulawesi as a case study. It includes the two models of policy implementations: Top-Down and Bottom-Up as the core topic of the research. Through this research core topic, the research will analyze rehabilitation and reconstruction policy as part of DRR concerning permanent housing reconstruction in Central Sulawesi. It is because the rehabilitation and reconstruction policy is the manifestation of DRM, which implementing the DRR as the policy objectives and having the noble goal, that is to achieve disaster resilience for the affected people, in this case, is the people in Central Sulawesi.

Build Back Better, as the current mainstream concept on rehabilitation and reconstruction with the mission to achieve resilience, will be used as a component to analyze the permanent housing reconstruction in Central Sulawesi. It includes three elements that can be found in the dominant narrative of Build Back Better in housing reconstruction:

1. Strategy to strengthen resilience, referring to utilizing the rehabilitation and reconstruction phase in post-disaster to prepare the affected people for the next disaster concerning that disaster can happen anywhere and anytime. By doing so, it is expected that the current affected people will be able to have less damage and loss in the future, once the disaster strike.

2. The second element is the construction and location for housing reconstruction to reduce disaster risk. In building back better, the concern is about lessening the disaster risk to protect people by understanding the disaster risk itself. Apart from diligently generate hazard maps, the regulation also strictly prohibits a settlement area in a highly prone disaster. Trying to implement Sendai Framework priority for action, construction, and location for housing reconstruction can be perceived as an attempt to pursue the priority.

3. The third element is the people-centered approach. The people-centered approach is important to complement the build-back better approach. Concerning the livelihood of the people to strengthen resilience, Maly suggests that build back better should not only concerning with reconstructing the physical (how the people can live safely under a disaster-friendly structure and safer location) but also how people can live their life after the reconstruction. The people-centered approach highlighted the involvement of the people in the decision-making process from the planning until the execution. It also covers three scopes: house, community, and policy.

For a clearer picture of the theoretical framework, kindly refer to the Figure 2.5.

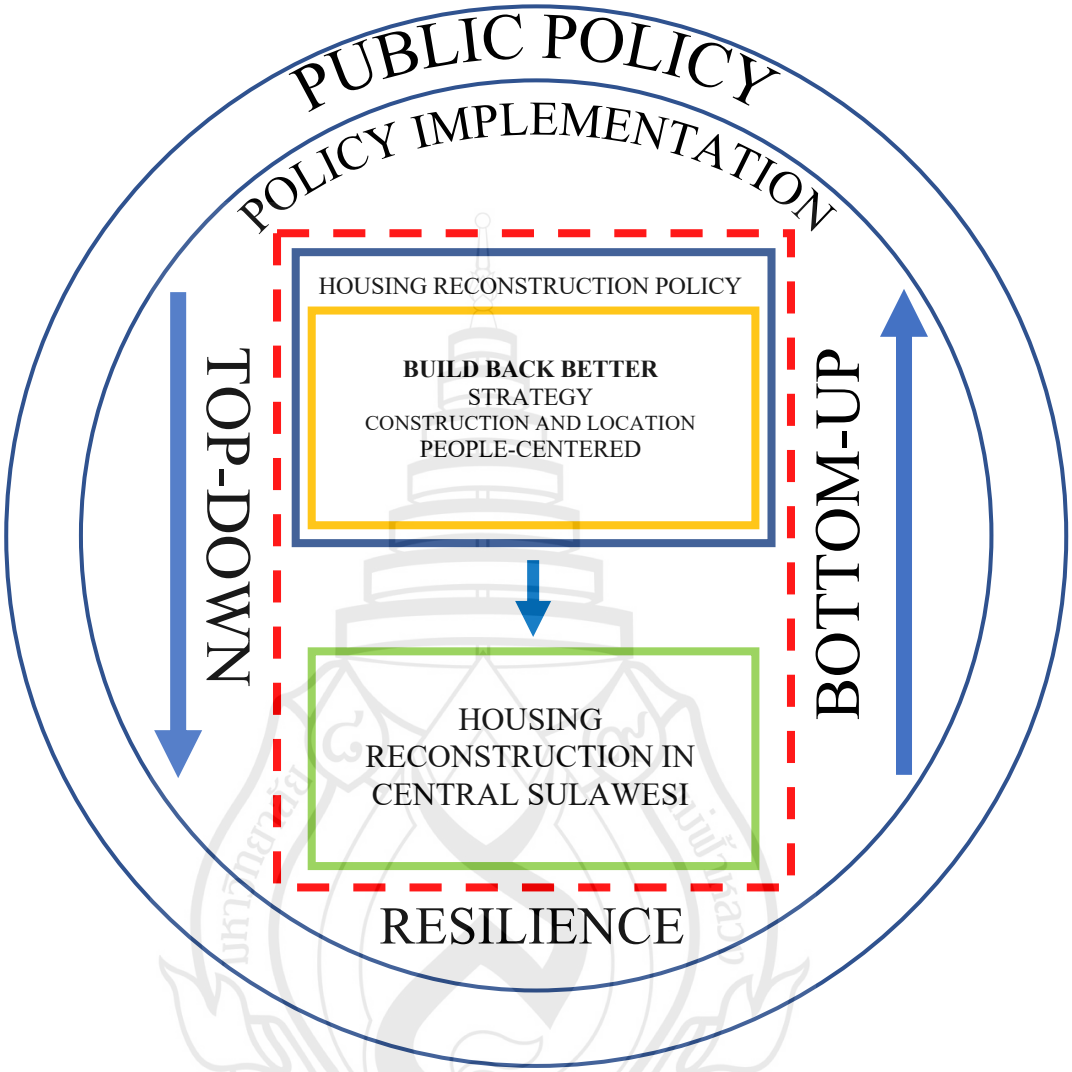


Figure 2.4 Theoretical Framework

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Design

The research used a qualitative method that uses documentary research by presenting rehabilitation and reconstruction cases in NAD-Nias, Yogyakarta-Central Java as precedent, supported by data from the informant from Disaster Management Task Force for Central Sulawesi. The objective was to cross-examined what happened in Sulawesi and the common practice of permanent housing rehabilitation and reconstruction in Indonesia. The data was taken through documents searching from the previous permanent housing rehabilitation and reconstruction cases in Indonesia, namely post-earthquake and tsunami in NAD-Nias in 2004 and earthquake in Yogyakarta-Central Java in 2006.

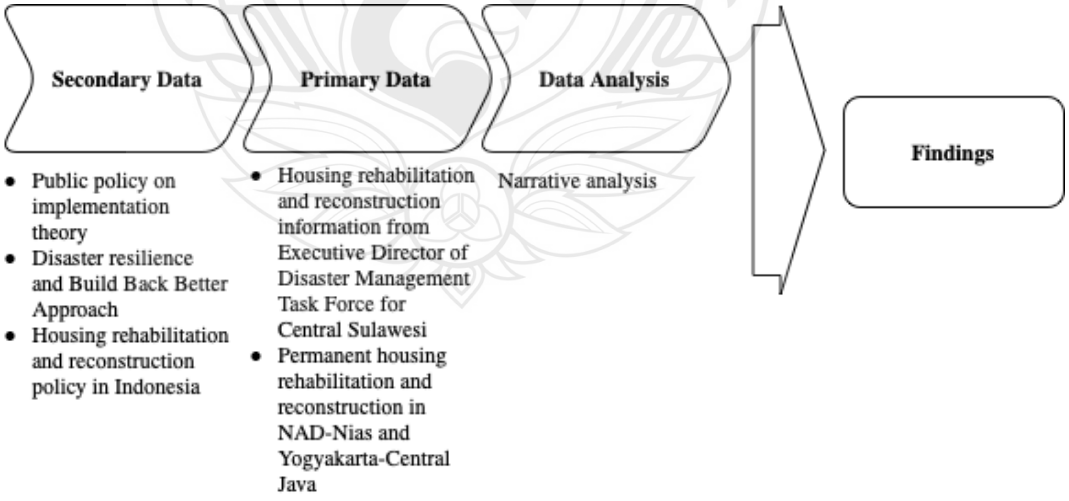


Figure 3.1 The Research Flowchart

3.2 Research Site

The research was supposed to be in Central Sulawesi: Palu City (Tondo and Duyu village) and Sigi District (Pombewe village). These three villages in Central Sulawesi are the designated location for permanent housing based on the Central Sulawesi Governor Regulation Number 10, 2019. However, due to the travel and mobility restriction policy, the researcher can only reach Jakarta, the capital city of Indonesia, where the Ministry of Public Works and Housing is situated, as the origin of the task force.

3.3 Data Collection

3.3.1 Key Informant

The key informant of the research was the central government. It uses the purposive sampling technique, which refers to selecting the sample with specific consideration. The key informant was one of the top managements in the Disaster Management Task Force for Central Sulawesi, Ministry of Public Works and Housing. The researcher had tried to reach the head of the task force. However, the organization redirected the interview to him, considering the availability.

Meanwhile, the data collection from documents related to the common practice of permanent housing rehabilitation and reconstruction in Indonesia, post-tsunami disaster in NAD-Nias in 2004, and post-earthquake in Yogyakarta-Central Java in 2006, was carried out by visiting official government websites, credible news sites, and academic texts.

3.3.2 Instruments

This research used a list of questions to get the information from the key informant to support the documentary research; therefore, the researcher prepared the main question guideline (Appendix B). Nevertheless, concerning the language barrier of the sample subjects, the researcher interviewed in Bahasa Indonesia, which the researcher can perform.

The key informant for this research was asked the consent and willingness before conducting any research instruments to advocate privacy, quality, and reliability of the research.

3.3.3 Guideline

Table 3.1 Research Guideline

No	Theory and Concept	Guideline
1.	Public Policy: implementation	a. There is a clear set of objectives of the policy, set by the stakeholder (decision-makers). b. There is a clear set of procedures to implement or achieving the objective of the policy. c. There are actors involve in the policymaking and the implementation. d. The use of sources, both material and non-material, to support the policy implementation. e. In the case of theTop-Down Approach: there is a clear hierarchical structure to implement the policy. f. In the case of the Bottom-Up Approach: there is an acknowledgment on the street-level bureaucrats.
2.	Build Back Better Approach in achieving disaster resilience	a. There should be a lesson learned adapted to the development plan aiming to reduce exposure to future hazards. b. It is an extensive rehabilitation and reconstruction beyond a mere immediate fixing of the affected area. c. It should support the livelihood of the people and involve people during the process. d. The design and construction should fit the people's needs. e. The outcome is the ability of the people to accept, survive, transform, and recover from the consequences of hazards.

The guideline above is derived from the main theories and concepts to answering research questions. This guideline is then also used in developing a guide for interview questions to the informants.

3.3.4 Data Analysis

In the beginning, this research was supposed to cross-examine government policy and its implementation by asking people's opinions. However, the researcher could not manage to reach the people due to the covid19 situation. Therefore, to keep the relevance of the research, the researcher decided to use the precedent of common practice on permanent housing rehabilitation and reconstruction in Indonesia as an alternative platform to examine the Sulawesi case.

The data of this research were analyzed using narrative analysis. It's a research approach that requires the researcher to interpret the information given by the key informant and the collected data. It is the way to know more about the key informant and/or the experience they had or written in the documents, dominated by why and how typical questions.

3.3.5 Secondary Data

The documentary research collected the secondary data from any official website related to the authorized parties, such as the Ministry of Public Works and Housing, the National Agency for Disaster Management, Local Agency for Disaster Management in Central Sulawesi, Government of Palu, Government of Donggala, and Government of Sigi. The data is in the form of the official document in electronic version, official press release, journal article, and any other official document related to the Central Sulawesi case, supporting the research. This research may also add the data from the third party such as international organizations, NGOs, philanthropy, volunteers, and any related party.

CHAPTER 4

FINDINGS

4.1 The Implementation of the Housing Reconstruction Policy in Central Sulawesi

This chapter will discuss the implementation of housing rehabilitation and reconstruction and its policy in Central Sulawesi. It will also explain the rehabilitation and reconstruction practice in NAD-Nias, and Yogyakarta-Central Java, followed by the Central Sulawesi case. This chapter will conclude whether there are similarities or differences between these three on implementing disaster risk reduction.

4.1.1 Housing Rehabilitation and Reconstruction Policy in NAD-Nias

On 26 December 2004, a 9.1 on the Richter scale tectonic earthquake occurred approximately 150 km off Nangroe Aceh Darussalam (NAD) (Badan Rehabilitasi dan Rekonstruksi [BRR] and Partners, 2006; Badan Rehabilitasi dan Rekonstruksi [BRR] NAD-Nias, 2009). Forty-five minutes later, a tsunami wave hit NAD, and in just a few minutes, the tide swept the 800 kilometers long coastal area of NAD. The tsunami also affected the other ten Asian-African countries' coasts (Bangladesh, Thailand, Madagascar, Malaysia, Maldives, Myanmar, India, Seychelles, Somalia, and Sri Lanka) (BRR NAD-Nias, 2009).

On 28 March 2005, another massive earthquake measuring 8.7 on the Richter scale struck the adjacent islands of Nias in the Indonesian province of North Sumatera (BRR NAD-Nias, 2009). The earthquake's severity, triggered by two tectonic plates rupturing and moving 350 kilometers beneath the Simeulue and Nias islands, caused enormous damage to the islands' infrastructure. This second natural catastrophe claimed the lives of 979 individuals and forced 47,055 survivors to flee their homes, causing further losses and damages (BRR NAD-Nias, 2009).

In NAD, the tragedy had killed a total of 126,741 lives, with an additional 93,285 individuals reported missing in the aftermath (BRR NAD-Nias, 2009). Approximately 500,000 survivors lost their houses, while around 750,000 individuals lost their livelihoods (BRR NAD-Nias, 2009). Up to 139,195 homes were destroyed or badly damaged in the private sector, accounting for 78 percent of the damage caused by the earthquake and tsunamis and 73,869 hectares of land with different degrees of productivity (BRR NAD-Nias, 2009). A total of 13,828 fishing boats perished, along with up to 27,593 hectares of brackish fish ponds and 104,500 small-to-medium companies (BRR NAD-Nias, 2009). Six hundred sixty-nine government buildings, 517 health institutions, and hundreds of educational facilities were destroyed or left non-functional in the public sector. Sixteen thousand seven hundred seventy-five hectares of coastal forests and mangroves, as well as 29,175 hectares of reefs, were lost to the environment (BRR NAD-Nias, 2009).

Following the first tragedy in NAD, the government of Indonesia demonstrated a rapid response. The government declared the tragedy as a national disaster and immediately instructed an emergency response to NAD. Then, Sri Mulyani, State Minister for National Development Planning and Head of the National Development Planning Agency, issued Decree No. 001/M.PPN/01/2005 on 10 January 2005, establishing the Coordination Team for NAD and North Sumatera Community Rehabilitation Planning and Construction (PR2MAS), which later enhanced with the issuance of Decree number KEP.007/M.PPN/02/2005 concerning Rehabilitation and Reconstruction Plan for the People in NAD and North Sumatera (R3MAS) (BRR NAD-Nias, 2009). This organization consists of two teams working together, that are the steering team and the executive team. The organization focused on the policymaking and the coordination among the related ministerial and institutions and international aid concerning the effort of rehabilitation and reconstruction post-tsunami in NAD. Supported by the national budget, the expected output of the organization was the rehabilitation and reconstruction masterplan framework (BRR NAD-Nias, 2009).

In wider inter-ministerial and institutions, the government issued Presidential Instruction Number 01, 2005, concerning Emergency Response Activities and Planning and Preparation for Rehabilitation and Reconstruction Post-Earthquake and Tsunami in NAD and North Sumatra Province (BRR NAD-Nias, 2009). It addressed to National

Coordination Agency for Disaster and Refugee Management, three coordinating ministers, ten ministers, Indonesian armed forces and police, head of the National Land Agency, and two local governments to coordinate and consolidate any possible forces and resources to execute emergency response and rehabilitation and reconstruction in the affected area. The highlight of the instruction was to prepare a master plan for rehabilitation and reconstruction along with the implementing organization for the rehabilitation and reconstruction of the province of NAD (BRR NAD-Nias, 2009).

The magnitude 8.7 earthquake hit Nias Island while the government responded to the NAD tragedy. Sri Mulyani decided to issue the Decree number KEP.174B/M.PPN/03/2005 concerning Coordination Team for Rehabilitation and Reconstruction Planning of NAD and Nias, North Sumatera (R3WANS) (BRR NAD-Nias, 2009). The issuance of the decree aiming to enhance further the existing organization (R3MAS) for broader coverage of the affected area but the same focus. Finally, on 15 April 2005, the government of Indonesia issued Presidential Regulation Number 30, 2005, concerning the Master Plan for The Rehabilitation and Reconstruction of the Region and Community Life of NAD and Nias Islands, North Sumatra Province. There are five essential points (Presidential Regulation, 2005):

1. Rehabilitation is defined as the process of developing policies, actions, and concrete steps to enable normalization or the normal functioning of all aspects of government and community life in the post-disaster area by formulating policies and measures. It is also about practical actions that are organized, coherent, and long-term to improve and restore all aspects of public or community services to an adequate level.

2. Reconstruction means the process of developing policies and actions to reconstruct all infrastructure, facilities, and institutions at the government and community levels. It aimed to grow economic, social, and cultural activities, maintain law and order, and increase civil society's role and participation in all affected areas.

3. The law mentioned an ad hoc team that is the Rehabilitation and Reconstruction Agency for NAD-Nias. It is an agency established to rehabilitate and reconstruct the areas and people's lives in post-disaster regions.

4. The master plan was a program (blueprints) developed by the government in collaboration with local governments in post-disaster rehabilitation and reconstruction.

5. The Master Plan is effective for 4 (four) years, according to the 2004-2009 Medium Term Development Plan (Presidential Regulation, 2005).

On 16 April 2005, the government issued a Government Regulation in Lieu of Law Number 2, 2005, concerning the Agency of Rehabilitation and Reconstruction of the Area and Community of NAD and Nias Islands, North Sumatra Province (BRR NAD-Nias) (BRR NAD-Nias, 2009). This law marked the formation of NAD-Nias's Rehabilitation and Reconstruction Agency as an ad hoc organization responsible for executing the rehabilitation and reconstruction in NAD and Nias Island. There was a shift in the definition of the terms' 'rehabilitation' and 'reconstruction' in this regulation, compared to Presidential Regulation number 30, 2005, which regulated the Master Plan for The Rehabilitation and Reconstruction of the Region and Community Life of NAD and Nias Islands, North Sumatra Province. The rehabilitation and reconstruction in this regulation were articulated as follows (Government Regulation in Lieu of Law, 2005):

1. Rehabilitation is the improvement and restoration of all aspects of public or community services to an adequate level in Post-Disaster Areas. The primary objective is to normalize all aspects of government and community life in Post-Disaster Areas.

2. Reconstruction is the rebuilding of all infrastructure, facilities, institutions in the Post-Disaster Area, both at the government and community levels, with the main objectives of growing economic, social and cultural activities, upholding law and order, and increasing the role and participation of civil society in all aspects of community's life in post-disaster areas (Government Regulation in Lieu of Law, 2005).

In Government Regulation In lieu of Law, 2005, rehabilitation and reconstruction have an operational meaning compared to the previous regulation, which emphasized more on policymaking. This regulation does not include the sentence "… the process of developing policies, actions, and concrete steps …" in defining both rehabilitation and reconstruction. Thus, this regulation further stresses that the organization formed due to the issuance of this regulation was no longer focused on policy but was already at the implementation stage.

In carrying out its duties, including constructing housing and settlement infrastructure and facilities, the BRR NAD-Nias was directly responsible to the President of the Republic of Indonesia, consisting of a steering board, supervisory

board, and executive board (Government Regulation in Lieu of Law, 2005). The steering committee had 17 members consisting of a chairperson, a vice-chairman, and 15 members (Government Regulation in Lieu of Law, 2005). The steering board consists of several elements: central government, local governments, religious/ulama, and traditional leaders, community leaders, and academics responsible for providing direction in the formulation, planning, and implementation of the rehabilitation and reconstruction process (Government Regulation in Lieu of Law, 2005).

Meanwhile, the supervisory board had nine members with the same structure as the steering board, consisting of the chosen people from the community leaders who have an adequate understanding of supervision (Government Regulation in Lieu of Law, 2005). The supervisory board had the task of supervising the implementation of rehabilitation and reconstruction and receiving, reviewing, and following up on public complaints. Unlike a steering board, this board is independent. This board was also authorized to appoint and use the professional services of independent auditors or other experts, including providing recommendations on the results of supervision in implementing rehabilitation and reconstruction to the President (Government Regulation in Lieu of Law, 2005).

Lastly, the executive board consists of the head of the executive board, deputy head, secretary, and deputies, specifically for the deputy head of the executive board, given to the Governor of NAD on an *ex-officio* basis (Government Regulation in Lieu of Law, 2005). In carrying out its duties, this council was obliged to pay attention to public input and the provisions of special autonomy that apply in NAD Province. Apart from carrying out rehabilitation and reconstruction, the executive board had to formulate more detailed strategies and policies for rehabilitation and reconstruction, make budget plans, and carry out procurement activities of goods and services following the prevailing laws and regulations (Government Regulation in Lieu of Law, 2005).

The funding to implement rehabilitation and reconstruction came from state revenue and other legitimate income (Government Regulation in Lieu of Law, 2005). These funds were managed, coordinated, and accounted for by the Head of the Executive Board and reported to the Minister of Finance. BRR NAD-Nias carried out its duties for four years and could be extended. After the end of the term, rehabilitation

and reconstruction activities became the responsibility of the Central Government and Local Governments under laws and regulations. Also, all of its assets became state property which could then be handed over to the Local Government (Government Regulation in Lieu of Law, 2005).

On 29 April 2005, the President of the Republic of Indonesia released Presidential Regulation Number 34, 2005, about Organizational Structure and Work Procedures and Financial Rights of BRR NAD-Nias to set out more detailed criteria for BRR members NAD-Nias (BRR NAD-Nias, 2009). Later, on 30 April 2005, the president appointed all members of the BRR NAD-Nias. Then, on 3 May 2005, the team was arrived in Banda Aceh to begin the rehabilitation and reconstruction. This organization has undergone 17 personnel changes and two reforms during its journey, especially on integrating the former Free Aceh Movement (GAM) into the team (BRR NAD-Nias, 2009).

GAM is an armed separatist movement founded on 4 December 1976, led by Hasan Di Tiro (Acehkini, 2019a, 2019b). This movement was founded to separate itself from the Republic of Indonesia. This spirit of secession was motivated by several things, including differences in applying Islamic law, dissatisfaction with the distribution of natural resource management, and the increase in the number of Javanese in NAD, which resulted in socio-cultural problems. GAM has a Tentara Neugara Aceh (TNA) military force, trained in Muktabah Tazzura, Libya. The peace agreement between GAM and Indonesia was signed in Helsinki, Finland, on 15 August 2005, ending Aceh's struggle for secession from Indonesia. Then, on 27 December 2005, TNA was officially disbanded after handing over and destroying weapons to the Aceh Monitoring Mission team due to the Helsinki agreement (Acehkini, 2019a, 2019b).

The overall number of destroyed houses is expected to be around 280 thousand, either entirely or partly, with the total loss was worth Rp13 trillion (Badan Perencanaan Pembangunan Nasional [BAPPENAS], 2005). Severe damage occurred along the West and North coasts, covering Banda Aceh, Aceh Besar, Aceh Jaya, West Aceh, Nagan Raya, Pidie, Bireuen, East Aceh, and North Aceh. As a consequence of the earthquake on 28 March 2005, damage also occurred in Nias District, South Nias District in North Sumatra, and Aceh Singkil District in NAD. The masterplan of rehabilitation and reconstruction recognized four significant problems related to housing and settlement

area: the destruction of housing and infrastructure and housing facilities, the destruction of transportation, communication and logistics systems, as well as energy infrastructure, the increasing sense of community insecurity against the threat of disaster, and the isolation of some areas. These problems led to some consequences, like decreasing people's health quality and destroying the environmental system, potentially turning into an environmental disaster. The government needs to hurry to address the issue because these problems could deteriorate, for example resulting in economic stagnation and has the potential to cause an economic depression (BAPPENAS, 2005).

To address the problems, the government, through BRR NAD-Nias, begun with providing infrastructure and facilities to meet basic needs and infrastructure to facilitate logistics distribution (BAPPENAS, 2005). These include setting top priorities on rebuilding housing, drinking water, sanitation, and drainage and prioritizing the rehabilitation of entry point infrastructure, including strategic seaports and airports and their supporting road network (BAPPENAS, 2005).

Specifically, on housing matters, the BRR NAD-Nias assisted and carried out the rehabilitation and reconstruction of housing and its supporting basic infrastructure and facilities for disaster victims (BAPPENAS, 2005). The program was executed in two ways: helping victims who wanted to return to their original place of residence in the form of in-cash or in-kind equivalent to Rp28 million for houses with heavy or destroyed levels, or Rp10 million for houses with minor damage. Additionally, assisting the provision of housing and supporting basic infrastructure and facilities for disaster victims who wish to move to a new place (resettlement), completing aid, and providing housing for disaster victims in less than 2.5 years (BAPPENAS, 2005).

Furthermore, the government was also trying to restore the moral condition of disaster-affected communities by increasing the preparation of infrastructure facilities to support evacuation efforts against disaster threats (BAPPENAS, 2005). There were four strategies in realizing this policy to create a sense of security for disaster-affected communities, including (BAPPENAS, 2005):

1. Rehabilitate and construct main drainage channels or improvement of natural channels to overcame the inundation.

2. Rehabilitate and reconstruct urban area drainage (micro and macro drainage) to reduce the potential negative impacts of environmental damage and public health.

3. Build an early warning system and evacuation facilities by constructing escape hills and escape roads in residential areas prone to tsunami disasters.

4. Controlled flooding in residential and urban areas through river normalization, embankment repair/construction, and improvement of flood control facilities (BAPPENAS, 2005).

Concluding the case of NAD-Nias, the policy was implemented using, dominantly, the Top-Down Approach with the combination of the Bottom-Up Approach. The first reason was that Indonesia, at that time, was still applying the emergency response paradigm in its disaster management. Second, the conflict between GAM and Indonesia was still ongoing at the time of the disaster, and NAD was a province with special autonomy. So, it requires a different approach in the structure of disaster management. Third, the tsunami destroyed almost all buildings and lives in NAD-Nias, thus requiring centralized planning to rebuild NAD-Nias so that it can return to its previous standard of living. Meanwhile, the participation of affected communities in the rehabilitation and reconstruction of housing in NAD-Nias can be seen through the involvement of the local government and influential figures who were previously members of GAM. Anyhow, the entire rehabilitation and reconstruction program was made by the central government with due observance of legal provisions, laws, and local wisdom.

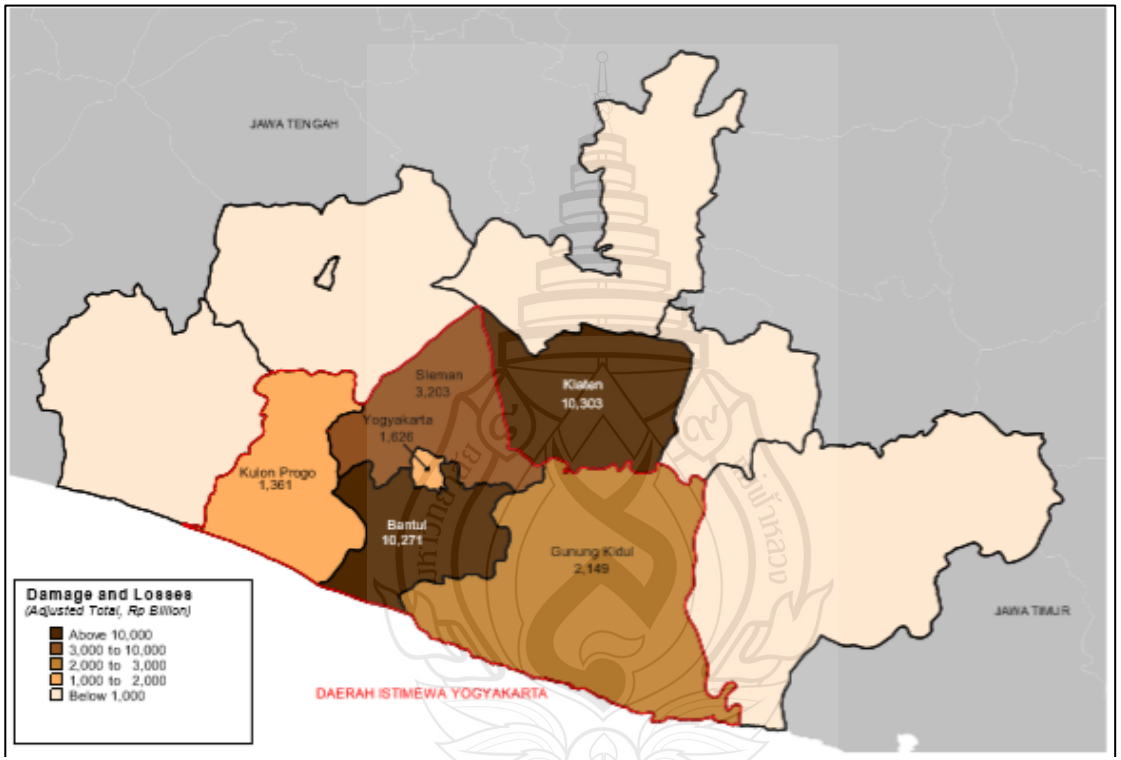
4.1.2 Housing Rehabilitation and Reconstruction Policy in Yogyakarta Central Java

In 2006 in Yogyakarta and Central Java, the magnitude 5.9 earthquake took place. It was a relatively shoal earthquake, 33 km subterranean and 33 km southern part of Bantul district lasted for 52 seconds, therefore caused more massive shock in the surface compared to the same magnitude in more profound central shock (BAPPENAS, 2006). Followed by approximately 750 aftershocks with the highest magnitude of 5.2, the earthquake hit five districts in Yogyakarta (Bantul, Kota Yogyakarta, Sleman, Kulonprogo, and Gunung Kidul) and six districts in Central Java (Boyolali, Klaten,

Magelang, Purworejo, Sukoharjo, and Wonogiri). On a pretty similar scale with the earthquake in Gujarat, India in 2001 and Pakistan in 2005, the earthquake in Yogyakarta and Central Java, indeed, has a tiny number of fatalities, which is 5,716 people died, compared to 20,005 and 73,338 people in India and Pakistan respectively. Nevertheless, Asia Disaster Preparedness Center said that the total loss and damage after the earthquake in Yogyakarta and Central Java counted as the fourth highest with US$3.1 million or Rp29,1 trillion, after the earthquake in Turkey (1999) with US$10.3 million, the tsunami in NAD-Nias (2004) US$4.75 million, and typhoon Mitch in Honduras (1998) US$4.7 million (BAPPENAS, 2006).

Housing became the hardest hit sector, valued more than half of the total loss and damage or approximately Rp15,3 trillion, compared to private and productive assets (about Rp9 trillion) and social (Rp4 trillion) (BAPPENAS, 2006). More or less 154,000 houses were destroyed, and 260,000 were heavily damaged. At a 15 percent higher price, the number of homes to be rebuilt and fixed in Yogyakarta and Central Java was higher than NAD-Nias. Bantul (Yogyakarta) and Klaten (Central Java) districts were placed as the hardest hit area by the earthquake, accounted for 70 percent of the total loss and damage (see Figure 4.1). Apart from the shoal source of an earthquake, population density and the failure of having earthquake-resistant buildings were other issues causing massive loss and damage. Bantul and Klaten include in the top ten populated districts in Indonesia, with more than 1,600 people per square kilometer. In comparison, the six affected districts accounted for having approximately 4.5 million people, and the earthquake has injured tens of thousands of people in 3,789 square kilometers (BAPPENAS, 2006).

In response to the disaster, the central government issued Presidential Decree Number 9, 2006, regarding the Coordinating Team for the Rehabilitation and Reconstruction of Post-Earthquake Disaster in Yogyakarta Special Province and Central Java. The issuance of the presidential decree resulted in the formation of a coordinating team for two years with a possibility to be extended (Presidential Decree, 2006).



Source BAPPENAS (2006)

Figure 4.1 Map of Loss and Damage Distribution

According to the Presidential Decree, 2006, the team who were working for the rehabilitation and reconstruction in Yogyakarta and Central Java carried mandates to coordinate the drafting of the main policy and strategy, formulation of plan, execution, and evaluation of the action plan, and stipulate strategic steps to alleviate obstacles for the rehabilitation and reconstruction (Presidential Decree, 2006). At the same time, the presidential decree gave authority to the executive team to formulate strategy and operational policy, arrange the acceleration measure and execute the rehabilitation and reconstruction (Presidential Decree, 2006). Reporting to directors, the Governor of Central Java and Yogyakarta (Special Province) is the head of the executive team in its province, respectively (Presidential Decree, 2006).

Funded by the state, local, and another unbounded budget, the directing team led by the coordinating minister for the economy with coordinating minister for people's welfare as the vice (Presidential Decree, 2006). There are ten ministers and/or heads of state institutions and two governors as members. Minister of public works acting as secretary and members, while deputy minister for the economy of agriculture and maritime affairs general directorate of public works department acting as vice secretary (Presidential Decree, 2006).

The Governor Regulation Number 47, 2006, concerning Operational Guidelines for Post-Earthquake Rehabilitation and Reconstruction in the Special Region of Yogyakarta for the Fiscal Year 2006 regulated the housing rehabilitation and reconstruction implementation in Yogyakarta. According to the regulation, the housing reconstruction in Yogyakarta used community organizing to orient people's empowerment approach. It aimed to make sure that the effectivity, acceptance, and convenient housing reconstruction. Also, advocating justice and concentrating on the people's wants and need are the other two approaches. Having objectives to (Governor Regulation, 2006):

1. Rebuild a legal, livable, and earthquake-resistant house for affected people
2. Establish a platform for the people to involve in the decision-making process during the planning and the execution of the housing reconstruction
3. Making sure that the people can settle down in their former house/land (Governor Regulation, 2006)

The governor regulation reiterated that the central government only functioned as a facilitator (Governor Regulation, 2006). At the same time, the execution of the reconstruction is entirely the authority of the local government and the people. Housing reconstruction involves five steps: preparation, a stipulation of the beneficiary, community organizing, preparation of fund disbursement administration, and lastly the execution. In more concrete steps, the housing reconstruction would begin with assistant recruitment, comprising management consultants and facilitators. Only one management consultant in a province, responsible for nine management consultants in each district/city assisting the reconstruction of 2,500-25,000 houses based on the size of the administrative and its number of reconstructed dwellings (Governor Regulation, 2006).

Furthermore, the facilitator consists of two or three persons assisting approximately 45-150 houses (Governor Regulation, 2006). Socialization of the program to the people and local government has become the concern to execute the project smoothly. Thus, even though the housing reconstruction using a community-based approach, the government does not let the people lost in the direction. The government also wants the people to bounce back better after the disaster by ensuring that the reconstructed house is earthquake-resistant (see Table 4.1) (Governor Regulation, 2006).

By organizing the people into groups (POKMAS), the regent/mayor determined the priority of the reconstructed area (Governor Regulation, 2006). Further, it also regulates the legitimate beneficiary of the housing reconstruction, as follow (Governor Regulation, 2006):

1. Have not received other assistance in the form of permanent house
2. Have not reconstructed and still living in a refugee camp and alike
3. Is not a house renter
4. Head of household and/or the family members has died, or disabled due to the earthquake, elder, and/or having toddlers
5. Another criterion based on people's concession and local wisdom (Governor Regulation, 2006)

Besides assisting the people in rebuilding their houses to be better, the government also prepared a stimulant fund that amounted to Rp15 million for each

home (Governor Regulation, 2006). The reconstruction of earthquake-resistant houses is the priority use of the fund. It is not only for the reconstruction under the government program but also for those who have rebuilt their home independently. But there must be a legal document following the self-reconstruction. The distribution of the fund should follow the below criteria (Governor Regulation, 2006):

Table 4.1 Distribution of Housing Assistance Fund in Yogyakarta

Distribution Phase	Conditions
Phase I (40%)	Physical progress at 0% and signed Letter of Agreement for Assistance Distribution (Surat Perjanjian Penyaluran Bantuan/SPPB).
Phase II (60%)	Physical progress of at least 30% has been installed or funds absorption amounted to 70% of Phase I funds.

Source Governor Regulation (2006)

In conclusion, the Yogyakarta-Central Java case used the Bottom-Up Approach, unlike the NAD-Nias cases. Indeed, both NAD-Nias and Yogyakarta-Central Java cases have the same pattern of legal basis. It is started by issuing the presidential regulation or presidential decree and then formed an ad hoc organization. In both cases, the local government got the strategic position in the executive board. However, the issuance of the Governor Regulation, 2006 distinguished the Yogyakarta-Central Java case from the NAD-Nias case. Only through this legal basis is distinct the role of the central government as a policymaker, strategic planner, and facilitator. In contrast, the local government and the people were the executors of rehabilitation and reconstruction.

4.1.3 Housing Rehabilitation and Reconstruction in Central Sulawesi

In the case of Central Sulawesi, the researcher happened to contact the Disaster Management Task Force for Central Sulawesi. It is an ad hoc organization mandated by the presidential instruction to specifically working on the rehabilitation and reconstruction policy in Central Sulawesi. The task force originated from the

Indonesian Ministry of Public Works and Housing. The researcher tried to contact the ministry to get important information to support this research. Then, the ministry directed the researcher to one of the official in the top management in the Disaster Management Task Force as the informant.

The rehabilitation and reconstruction in Central Sulawesi use Constitution number 24, 2007 concerning Disaster Management as the primary guidance supported by the Government Regulation number 21, 2008 on the Implementation of rehabilitation and Reconstruction. The data from the informant of the Disaster Management Task Force revealed that Presidential Instruction number 10, 2018, concerning the Acceleration of Central Sulawesi Rehabilitation and Reconstruction, defined the role of the Ministry of Public Works and Housing in disaster management in Central Sulawesi. The General Secretary Decision Act of Ministry of Public Works and Housing number 133/KPTS/SJ/2020 concerning the Formation of Executing Task Force for Earthquake and Tsunami Disaster Management in Central Sulawesi embodied the formation of a special task force for disaster management in Central Sulawesi. This organization improves post-earthquake and tsunami disaster management efforts in Central Sulawesi following the duties and functions of the Ministry of Public Works and Public Housing (PUPR).

In brief, the responsibility of the Ministry of Public Works and Housing in disaster management in Central Sulawesi, according to the Presidential Instruction number 10, 2018 including:

1. Execute rehabilitation and reconstruction for the public infrastructure, including but not limited to education facility, health facility, religion facility, and economic support facility and basic infrastructure
2. Coordinate with ministerial and institutions, and local government (province and district/city)
3. Take necessary actions to accelerate rehabilitation and reconstruction
4. Responsible for and supervise the execution in constructing earthquake-resistant houses using self-managed scheme by the people and contractual scheme (Presidential Instruction, 2018)

These responsibilities further translated into a more technical role in the Task Force for Earthquake and Tsunami Disaster Management in Central Sulawesi, as stated

in the General Secretary Decision Act of the Ministry of Public Works and Housing. According to the Act, the executing task force has a four-level hierarchy comprising twelve units: chief of the task force, chief executive of the task force, administrative and general coordinator, coordinator of public relations, inter-agency and publications, coordinator for integrated planning, programming, and budgeting, coordinator for program implementation integration, and lastly coordinator for data, monitoring, evaluation, and reporting. Meanwhile, the coordinator for program implementation integration is responsible for the settlement program, water resource program, highways program, housing provision program, and technology implementation program.

Below is the description of the responsibilities and functions of each, as written on the General Secretary Decision Act:

1. Chief of the Task Force:

1) Provide recommendations to the Command Center and coordinate disaster management policies

2) Arranging disaster management program direction and budget

3) Report disaster events and disaster management activities that are currently or have been executed to the Minister of Public Works and Public Housing and the Command Center

4) Coordinate across Ministries and Institutions

2. Chief Executive of the Task Force:

1) Provide recommendations to the Chief of the Task Force and coordinate disaster management policies and their implementation in the field

2) Prepare proposals for disaster management program and budget needs

3) Coordinating data and information collection as well as reporting disaster events and disaster management activities that are currently or have been executed to the Chief of the Task Force

4) Carry out coordination across central agencies at the local level and provincial or district/city agencies

5) Prepare for daily disaster management activities steps

6) Monitor and give the command to each working unit in the Ministry of Public Works and Public Housing in the disaster management activities

3. Administrative and general coordinator:

1) Providing all the needs for Administration and Infrastructure Facilities for the Task Force for Post-Earthquake and Tsunami Disaster Management in Central Sulawesi

2) Prepare personnel support (HR of the Task Force, Volunteers, and Assistants) including scheduling, supervision, and personnel assignment reports

3) Planning, implementing and managing the administrative and financial reports of the Task Force

4) Plan, implement and manage transportation needs of the Task Force

4. Coordinator of public relations, inter-agency, and publications:

1) Prepare reports for the Chief

2) Prepare information materials through the media and coordinate their dissemination with the Public Communications Bureau

3) Provide support in coordination and relations with relevant agencies at the local level

4) Manage public information and complaints and coordinate follow-up actions with relevant agencies

5. Coordinator of integrated planning, programming, and budgeting:

1) Coordinating program plans and budgets from various sectors as well as various sources of funds

2) Coordinating the integration of infrastructure and facilities development plans in disaster-prone areas

3) Identify the readiness of program implementation including land, analysis of environmental impacts, and the availability of other supporting infrastructure

4) Coordinate planning support and its integration in the context of emergency repair/rehabilitation/reconstruction of infrastructure and facilities affected by disasters

6. Coordinator for program implementation integration:

Coordinating the entire implementation of the settlement program, water resources, highways, housing provision, and the implementation of technology applications

7. Coordinator for the implementation of settlement program:

1) Planning, monitoring, and reporting on the implementation of settlement programs

2) Monitor and evaluate the results of the implementation of the settlement program and compile periodic reports

3) Coordinating the needs and application of technology related to the implementation of the settlement program

4) Coordinating the implementation of cross-sector programs within the Ministry of Public Works and Housing and other agencies

5) Coordinating plans for the management, utilization, and handover of assets

6) Coordinating with local governments and/or other agencies related to potential beneficiaries of housing infrastructure

8. Coordinator for water resource program:

1) Planning, monitoring, and reporting on the implementation of water resources programs

2) Monitor and evaluate the results of the implementation of the water source program and compile periodic reports

3) Coordinating the needs and application of technology related to the implementation of water resources programs

4) Coordinating the plan for the management, utilization, and handover of assets in the water resources sector

9. Coordinator for highways program:

1) Planning, monitoring, and reporting on the implementation of the highways program

2) Monitor and evaluate the results of the implementation of the highways program and compile periodic reports

3) Coordinating the needs and application of technology related to the implementation of the highways program

4) Coordinating plans for management, utilization, and handover of assets in the highways sector

10. Coordinator for the implementation of housing provision:

1) Plan, monitor, and report on the implementation of the housing provision program

2) Monitor and evaluate the results of the implementation of the housing provision program and compile periodic reports

3) Coordinating the need for and application of technology related to the implementation of the housing provision program

4) Coordinating plans for management, utilization, and handover of assets in the housing provision program

5) Coordinating with local governments and other agencies related to potential beneficiaries of permanent housing, social facilities, and public facilities

11. Coordinator of the implementation of technology application:

1) Conducting audits and verification of technology implementation in the execution of water resources programs, highways, settlement, and housing provision program

2) Providing technological alternatives in infrastructure development

3) Identifying damage to infrastructure, area, and water availability to support the provision of permanent housing

12. Coordinator of data, monitoring, evaluation, and reporting:

1) Planning a disaster management data management system in digital and physical form

2) Establish communication with key data personnel both internal and external

3) Carry out technology-based field monitoring and evaluation activities

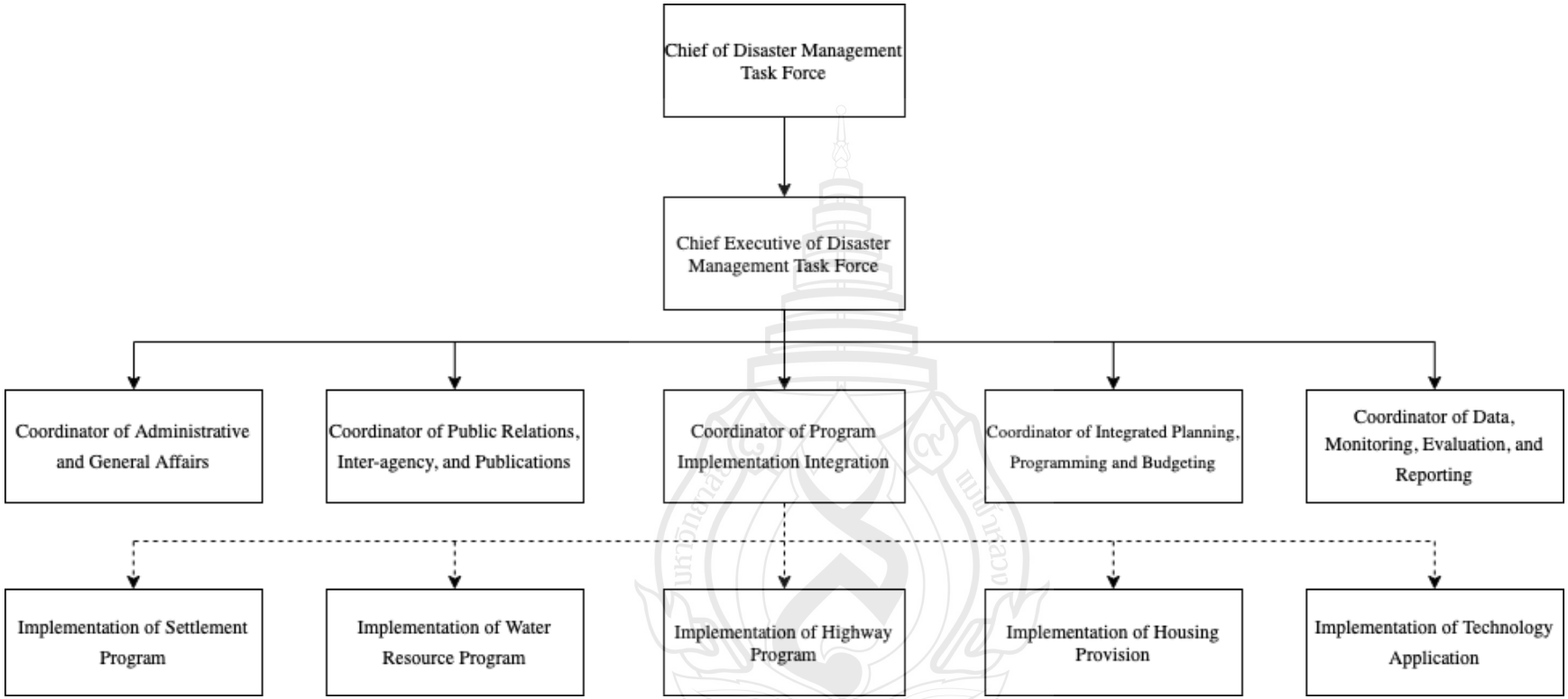
4) Compiling the entire program implementation report periodically and incidentally

5) Coordinating documentation activities, including the provision of photo and video

There are 71 people are working on the task force originated from the internal Ministry of Public Works and Housing based on the related working units and merit, and they will work starting from the date of the issuance of the General Secretary Decision Act on 3 February 2020 until the period of the rehabilitation and reconstruction is finish or decided to be terminated by the authorized party under certain circumstances. Referring to the General Secretary Decision Act of the Ministry of Public Works and Housing, regarding any cost occurring under the task force, will be borne by the Ministry of Public Works and Housing. The task force is directly reported to the Minister of Public Works and Housing to, further, coordinate with the National Disaster Management Agency and evaluated periodically. A more detailed organization chart of the task force can be seen in the Figure 4.2.

The data from the task force said that as of February 2020, the rehabilitation and reconstruction phase has begun and the execution will take up to 2024 with the funding support from a foreign loan, World Bank, for the permanent housing, settlement infrastructure, buildings, and some of the road reconstruction projects. Additionally, Japan International Cooperation Agency (JICA) gives fund support on most of the road reconstruction projects, some of the natural resources' infrastructure, and a hospital in Anutapura, Palu City. Lastly, support funds from the Asian Development Bank (ADB) targeting most of the natural resources' infrastructure. These loans will be piled in the central government and distributed through the local government as well as the National Disaster Management Agency.

The Presidential Instruction Number 10, 2018 and the General Secretary Decision Act of Ministry of Public Works and Housing support the presence of aTop-Down Approach as the style of public policy implementation in the housing rehabilitation and reconstruction in Central Sulawesi. There is the presence of procedures, the executor, products of the policy, set of objectives, tools, the use of resources, and a structure. The compliance towards the procedure, explaining who-doing-what and how something should be done, can be seen from the adoption of the Constitution number 24, 2007 and more practical regulation on the Government Regulation number 21, 2008 in the rehabilitation and reconstruction in Central Sulawesi as the main guideline in executing the housing rehabilitation and reconstruction program.



Source Disaster Management Task Force for Central Sulawesi, personal communication, November 16, 2020

Figure 4.2 Organization Chart of the Disaster Management Task Force for Central Sulawesi

According to the explanation about the working structure above, the central government, the Ministry of Public Works and Housing, chose to use the contractual scheme instead of the community-based scheme, although the options is available on the Presidential Instruction Number 10, 2018 and the General Secretary Decision Act of Ministry of Public Works and Housing. The contractual scheme authorized the Local Agency for Disaster Management at the district/city level to do the technical planning and construction work while the Local Agency for Disaster Management at the Provincial level supervise it. On the other hand, the community-based scheme gives the authority to the affected people to rehabilitate and reconstruct under the guidance and supervision of the government official.

Another evidence of the Top-Down Approach in Central Sulawesi is the embodiment of the Government Regulation number 21, 2008 regarding the Implementation of Rehabilitation and Reconstruction on the Presidential Instruction number 10, 2018 concerning the Acceleration of Central Sulawesi Rehabilitation and Reconstruction. For example, Chapter IV, Post-Disaster, First Part, Article 57 point 1, states that "The rehabilitation activities…are the responsibility of the Government and/or local governments affected by the disaster" (Government Regulation, 2008). The Presidential Instruction Number 10, 2018, mentions four coordinating ministries, 25 ministries, Commander in Chief of Indonesian Forces, attorney general, The Audit Board of the Republic of Indonesia, Commander in Chief of Indonesian Police, National Disaster Management Agency, National Public Procurement Agency, and local government as the translation of the above article. It indicates the involvement of the central government and local government during the rehabilitation and reconstruction process.

The formation of the Disaster Management Task Force for Central Sulawesi confirms the research guideline on implementing public policy on the presence of policy products, based on the issuance of the General Secretary Decision Act of the Ministry of Public Works and Housing number 133/KPTS/SJ/2020. The formation of the Disaster Management Task Force embodied the public policy implementation on the procedure, which refers to a tangible realization of the rehabilitation and reconstruction. In Government Regulation Number 21, 2008, the actual realization of

the rehabilitation and reconstruction refers to restoring and rebuilding the people's 'better' lives in the disaster-affected area.

Besides, the Task Force's formation also confirms the presence of actors to execute the policy itself. The Presidential Instruction Number 10, 2018, mentions four coordinating ministries, 25 ministries, Commander in Chief of Indonesian Forces, attorney general, The Audit Board of the Republic of Indonesia, Commander in Chief of Indonesian Police, National Disaster Management Agency, National Public Procurement Agency, and local government, indicating the actors taking part in the implementation process. But in the housing rehabilitation and reconstruction, it is within the responsibility of the Ministry of Public Works and Housing, which further established a dedicated Disaster Management Task Force for Central Sulawesi.

The consistency of Presidential Instruction Number 10, 2018, adopting the Constitution Number 24, 2007, as the main guideline in rehabilitation and reconstruction, can be seen from its objective and things covered by rehabilitation and reconstruction. Both the Constitution Number 24, 2007 and Presidential Instruction Number 10, 2018, stated that the rehabilitation and reconstruction in post-disaster aims to restore and rebuild the ‘better’ lives of the people. It includes the structure, infrastructure, public services, and personal health of the people, both physically and mentally. Both the Constitution Number 24, 2007 and Presidential Instruction Number 10, 2018, also state the same thing about what is covered by rehabilitation and reconstruction. The rehabilitation activity consists of:

1. Improvement of the disaster area environment;
2. Improvement of public infrastructure and facilities;
3. Providing assistance for community housing repairs;
4. Social psychology recovery;
5. Health services;
6. Reconciliation and conflict resolution;
7. Social, economic, and cultural recovery;
8. Restoration of security and order;
9. Restoration of government functions; and
10. Restoration of the function of public services.

Meanwhile, the reconstruction consists of:

1. Rebuilding of the infrastructure and facilities;
2. Rebuilding communities' social facilities;
3. The revitalization of the socio-cultural life of the community;
4. The application of proper design and use of better and disaster-resistant equipment;
5. Participation and the role of social institutions and organizations, the businesses and the community;
6. Improvement of social, economic, and cultural conditions;
7. Improving the function of public services; or
8. Improvement of key services in the community.

According to the research guideline, the loans from the World Bank, JICA, and Asian Development Bank are considered the resource's use. This resource completes the other resources used by the actors, as the human resources, to implement the policy. Indeed, there are many other resources involved during the implementation of the policy, such as material resources such as building materials, health equipment, education equipment, and many more.

Furthermore, from the issuance of Government Regulation Number 21, 2008 until the establishment of the Task Force and its coordination line creates the fulfillment on the element of the structure of the public policy implementation. Unlike the other type of law such as Government Regulation Number 21, 2008, or Constitution Number 24, 2007, or The General Secretary Decision Act of Ministry of Public Works and Housing, the Presidential Instruction number 10, 2018, is more straightforward and does not contain many regulations but strengthening the main guideline, in this case, is the Government Regulation Number 21, 2008. Considering the severity and scale of the disaster in Central Sulawesi, the central government issued Presidential Instruction number 10, 2018, containing an instruction to execute the rehabilitation and reconstruction in Central Sulawesi. Then, hierarchically downside, as instructed by the president, the Ministry of Public Works and Housing carry on their responsibility as the prominent leader to rehabilitate and reconstruct Central Sulawesi.

In terms of coordination and organization and in using the resources, the main guideline of disaster management also uses structure. It is stated the resources for

disaster management are within the government's responsibility, at both the national and local level. The local government will be responsible for the disaster management resources in the first place. If the resources are insufficient, then the local government can request the provincial level, which goes until the national level. The foreign loans have the same patterns in the lens of the implementation of public policy. It is divided into specific issues, and the National Disaster Management Agency distributes it.

According to the Disaster Management Task Force data, after dealing with the legal basis to conduct the rehabilitation and reconstruction for Central Sulawesi, the next step is analyzing the problems and issues. The central government has acknowledged that three disasters happened: earthquake, tsunami, and liquefaction. The government also recognized that the disasters had caused material and non-material loss such as buildings, houses, public facilities, infrastructure, wealth, including people's lives, and psychological conditions. Addressing those issues, the government realized that they have to prepare many things to ensure an effective rehabilitation and reconstruction in a post-earthquake, tsunami, and liquefaction. The preparation includes a disaster-prone area map in Central Sulawesi, the list of aid beneficiaries primarily related to direct aid fund and housing, land acquisition, and especially fund availability.

The Disaster Management Task Force data also said that the Task Force would like to focus on intensive control on the permanent housing and settlement infrastructure and monitoring, supervising, and accelerating the implementation of the buildings, highways, bridges, and natural resources infrastructure constructions. There are three main goals as a specific target:

1. The arrangement of a Geographic Information System (GIS)-based application for the data collection on affected residents, preferences in relocation locations, and the progress of the permanent housing provision implementation
2. The arrangement of guidelines for community assistance in preparing the independent permanent housing and guidelines for the management and utilization of permanent housing
3. Availability of 8,788 units of permanent housing equipped with access to drinking water and sanitation, including electricity access which contingent upon Perusahaan Listrik Negara (State Electricity Company/PLN) readiness and commitment

To achieve these goals, the informant from Disaster Management Task Force said there are three main sequences of actions: internal consolidation, the arrangement of an integrated strategy and the identification of obstacles and challenges, and external coordination.

First, internal coordination among the working units in the Ministry of Public Works and Housing. The ministry must perform the government affairs:

1. specifically on the formulation, stipulation, and implementation of the integrated policies and strategies in public works and housing,
2. manage the state property/assets subjected to public works and public housing,
3. implement technical guidance and supervision over the implementation of public works and public housing affairs at the local level, and
4. research and development on the public works and housing.

Referring to Presidential Regulation Number 27 of 2020 concerning the Ministry of Public Works and Housing, the ministry comprises (see Figure 4.3):

1. Inspectorate General,
2. Secretariat General,
3. Directorate General of Water Resource,
4. Directorate General of Highways,
5. Directorate General of Settlement,
6. Directorate General of Housing Provision,
7. Directorate General of Construction,
8. Directorate General of Housing Financing,
9. Regional Infrastructure Development Agency,
10. Research and Development Agency, and
11. Human Resource Development Agency

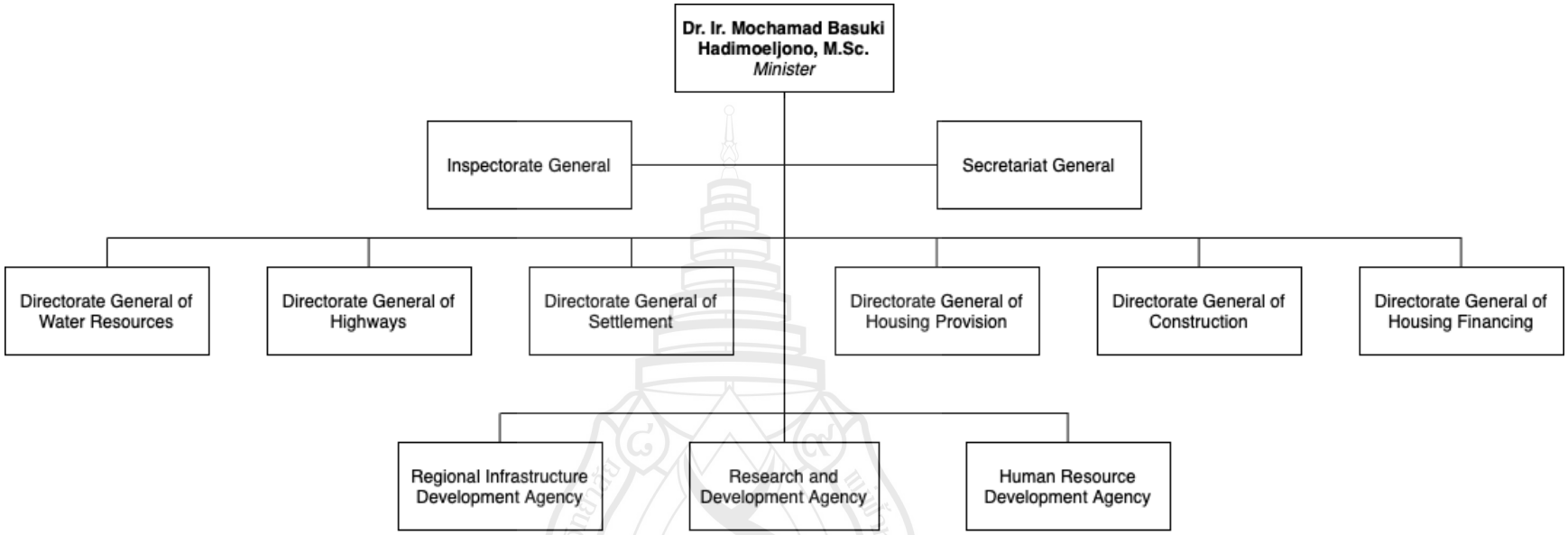


Figure 4.3 Organization Chart of the Ministry of Public Works and Housing

The Disaster Management Task Force for Central Sulawesi is an ad hoc organization for Central Sulawesi. Under the lens of the ministry's organization chart, the Disaster Management Task Force comprising:

1. four Directorate Generals:

1) Directorate General of Housing Provision. It is responsible for the provision of 8,788 units of permanent housing in three districts/cities.

A. Directorate of planning responsible for the housing provision program

B. Directorate of specific housing is responsible for the stipulation of the guidance for the implementation, design standards, technical specifications, and budget estimation

C. Directorate of Self-supported Housing is responsible for directing the implementation of housing provision

D. Housing Provision Executive Agency Sulawesi II (Balai Pelaksana Penyediaan Perumahan) is responsible for the implementation of the permanent housing provision

2) Directorate General of Settlement. It is responsible for providing support to the permanent housing through land clearing and development, preparing the settlement infrastructure, including but not limited to highways, drainage, communal waste management, landfill, drinking water provision, green open space, education facilities, health facilities, market, and electricity access. Besides, the directorate is also responsible for supervising the permanent housing provision by the donor, such as Yayasan Budha Tzu Chi. Those responsibilities are implemented in Regional Settlement Infrastructure, Central Sulawesi Province (Balai Prasarana Permukiman Wilayah).

3) Directorate General of Highways is responsible for rehabilitation, improvement, and construction of highways and bridges, including supporting highways or entrance access to the permanent housing and coastal road (which also functioned as sea wall). National Highways Executive Agency of Central Sulawesi Province (Balai Pelaksanaan Jalan Nasional) is responsible for the implementation.

4) Directorate General of Water Resource through Basin Agency Sulawesi III (Balai Wilayah Sungai) is responsible for implementing the rehabilitation,

improvement, and re-functioning of the affected irrigation, clean water, and coastal guard.

2. Secretariat General:

1) Data and Information Center bureau

2) Budgeting Plan and International Cooperation bureau

3. Construction Services Selection Executive Agency of Central Sulawesi (Balai Pelaksana Pemilihan Jasa Konstruksi),

4. Research and development agency (research and development center on settlement).

Second, the arrangement of an integrated strategy and the identification of obstacles and challenges. The Disaster Management Task Force must rehabilitate and reconstruct the affected area in Central Sulawesi, covering approximately 9,866.16 square kilometers or 15.95 percent of the total width of Central Sulawesi. The work is also related to the settlement, spatial, and most importantly, to the life of the people, such as housing, public facilities, etc. This way, whatever the task force will develop or build, the people will use it to live their lives. Therefore, the most concerning items include the integration of the plan and strategy.

Third, external coordination to address the identified obstacles and challenges. It is related to the authorities, regional-based authorities, substantial or sectoral, financing agencies, and other related external parties such as:

1. The central government, especially the Vice President Secretariat office, Coordinating Ministry for Politics, Law, and Security office, Ministry of National Development Planning/National Development Planning Agency (Kementerian Perencanaan Pembangunan Nasional/Badan Perencanaan Pembangunan Nasional), and Ministry of Finance

2. National Disaster Management Agency which contributes to the arrangement of the post-disaster policy direction, the financing for the temporary housing provision, and rehabilitation and rebuilds of permanent housing for in situ scheme

3. Ministry of Agrarian Affairs and Spatial Planning/National Land Agency (Kementerian Agraria dan Tata Ruang/Badan Pertanahan Nasional) and its representative in Central Sulawesi. The ministerial is responsible for the provision of

location for permanent housing relocation through revocation or does not extend the business uses right for location in Tondo-Talise and Duyu in Palu City and Pombewe in Sigi District and preparing land certificate on behalf of the prospective occupants

4. Local government in the Local Government Coordination Forum (FORKOPIMDA):

1) Governor of Central Sulawesi positioned as a person in charge for the entire post-disaster phases including but not limited to the designation of the relocation location, together with the Local Disaster Management Agency, Housing, Settlement and Land Services Agency, Public Works and Spatial Planning Agency, and Data and Information Center

2) The Mayor of Palu City together with the Regent of Sigi and Donggala and its supporting institutions at the local level have to make sure the accuracy of the affected people's data, the designation of relocation location (for small and medium scale, and self-support), the stipulation of a disaster-prone area, socialization and assistance to the people, easier access for the location, environment, and construction permit

3) Commander of Military Resort Command (Komandan Komando Resor Militer). It is a military territorial classification covering some of Military District Command at district/city level (Komando Distrik Militer). During the rehabilitation and reconstruction period, the commander is positioned as the chief of the Disaster Management Task Force at the local level

5. Other related parties. The government realizes that the state has a limited capacity to address all the occurring problems in the affected area both in material and non-material such as financing, technology, knowledge, skill, and many others. Understanding the situation, it is important to have coordination with the external party as a strategic partner. Financial institutions, donors, and NGOs are among the most common and important parties during the rehabilitation and reconstruction period. The presence of aid from the World Bank, JICA, ADB, and NGOs like Yayasan Budha Tzu Chi is very much expected by the government to accelerate and maintain the effectiveness of the rehabilitation and reconstruction process in Central Sulawesi. Although in some cases the cooperation generates compliance standards such as environmental standards, gender equality, the absence of land-based conflict,

sustainability of the people's life, tender procedure, and many more, yet at the very end the pressure to fulfill the needs prevails. Furthermore, the requirements provided by those institution does not produce harms to any involving parties especially the affected people as the beneficiaries.

Regarding the beneficiary of the permanent housing provision, the informant from the Disaster Management Task Force explained that the beneficiary of the permanent housing program is divided into two categories based on their default location before the disasters over the disaster zone map: secure and not secure (occupying disaster-prone area). For those in the safe zone, the rehabilitation and reconstruction are in the existing location (in situ), executed and funded by the National Disaster Management Agency, and self-managed by the people. The financing program uses a stimulant fund scheme distributed by the Local Disaster Management Agency and managed by the people. Those living in a disaster-prone area must move from the previous location to the designated place, which the local government has stipulated.

The informant added that the beneficiary data collection and its accuracy, damage level confirmation, relocation process, socialization, dialog, and community development become the responsibility of the local government. Moreover, the Ministry of Public Works and Housing, together with the National Disaster Management Agency, will direct the policy of the reconstruction and rehabilitation and support the preparation of temporary housing provision, permanent housing provision, settlement infrastructure, and any other related infrastructure. In this case, the support from the ministerial and National Disaster Management Agency is in the form of facilitator mobilization, expert team for data collection, training for the affected people to construct and maintain their own house, and other kinds of possible support.

The explanation about the three sequences of actions and the beneficiary of the housing provision brings two inclusiveness: the ministry and the obstacles and challenges. First, the inclusivity among the Ministry of the Public Works and Housing forms the Disaster Management Task Force. It involves cross-directorate or functioned department inside the ministerial, simply because the Disaster Management Task Force needs to deal with the multi-sectoral issue during the rehabilitation and reconstruction. Maybe it is considered a regular practice in the ad hoc team study; nevertheless, it can also reflect the acknowledgment of the need for multi-actor involvement. As per the

presidential instruction has stated that the ministerial is responsible for the settlement. It means the ministry has to deal with the housing itself and the facilities and the infrastructure. Therefore, the first inclusivity is about functionality.

Second, the inclusivity that the Disaster Management Task Force does to deal with the recognized obstacles and challenges. The inclusivity refers to the coordination line between the Disaster Management Task Force and the external parties, including but not limited to the authorities (including the regional-based authorities), substantial- or sectoral-based parties, financing agencies, and other related external parties. Even Presidential Instruction number 10, 2018, mentions local government and other associated parties. It is also essential to note that their involvement in the rehabilitation and reconstruction program is not cliché, for example, just to comply with the law, but as important as the other involved party. The local government got a mandate to lead the implementation of the rehabilitation and reconstruction program on the field and ensure the accuracy of the data and collection process.

According to the discussion in Chapter II about policy implementation, the Bottom-Up Approach focuses on the street-level bureaucrats as the closest party to the people and as the front liner in implementing the policy. There is also a discussion about the general practice of governance in Indonesia, which points to decentralization. It refers to a sharing power between the national and local government and allowing the local government to determine their own development without neglecting the national constitution as the main guideline. Specifically, in disaster management, Constitution number 24, 2007 mentions the involvement of the people in addition to following the central government's instruction and coordination. Two cases that represented the best practice in implementing the rehabilitation and reconstruction with the people's direct involvement are NAD-Nias's earthquake and tsunami in 2004 and Yogyakarta-Central Java's earthquake in 2006. Although, the NAD-Nias and Yogyakarta-Central Java cases are unprecedented and happened before the issuance of the national disaster management constitution.

In comparison, Central Sulawesi also involves the people, but indirectly through the local government as their representative and in another form of involvement, such as through civil society organizations or non-government organizations. Through the Disaster Management Task Force, the central government decided to use the

contractual scheme to provide permanent housing instead of using the community-based scheme. From this point of view, this research assumes that the central government takes complete control of it. But when it comes to the whole picture of the process, people's participation is mandated by the presidential instruction through the local government and other related external parties' categories. The local government, which the people democratically elect, is responsible for implementing the whole rehabilitation and reconstruction on the field. They are also responsible for the data collection of the affected parties and area and its quality. Yayasan Budha Tzu Chi developing approximately 3,000 permanent housing units is another example of people's involvement in another form.

Another example is the direct participation of the people in the in-situ scheme in the permanent housing development. However, the researcher admits that it is not the primary case in Central Sulawesi. The informant refused to talk about the in-situ scheme because it was beyond its capacity to answer such question.

Concluding the Central Sulawesi case, the implementation of permanent housing policy during the rehabilitation and reconstruction in Central Sulawesi uses Top-Down and Bottom-Up Approaches. It can be reflected through the hierarchical structure of the central government and the acknowledgment of street-level bureaucrats at the same time. Presidential Instruction number 10, 2018, as the legal basis of the policy implementation and the practice of the policy in the field, state the use of structure and the recognition on the street level bureaucrats at the same time.

The Central Sulawesi Case has similarities and differences with the precedents in NAD-Nias and Yogyakarta-Central Java. In terms of using the Top-Down Approach, three of the cases were started by issuing a legal basis from the central government, which formed a particular body to implement rehabilitation and reconstruction. Although in the case of Central Sulawesi, the formation of the specific body was not directly under the primary legal basis like in NAD-Nias and Yogyakarta-Central Java cases. While for the Bottom-Up Approach, all three cases involved the local government and the affected people, but in a specific spectrum and under unique circumstances.

The differences of the three cases can be analyzed, firstly, from the role of the particular body as the consequences of the issuance of legal basis from the central

government. In NAD-Nias, the ad hoc organization came from the National Development Planning Agency, which acted as the policymaker, strategic planning, facilitator, and executor of the rehabilitation and reconstruction. The ad hoc organization worked differently in the Yogyakarta-Central Java case, limited to policymaker, strategic planning, and facilitator in implementing the rehabilitation and reconstruction policy. Lastly, in Central Sulawesi, the ad hoc organization acted as the housing rehabilitation and reconstruction executor because the central government had already set the policy and strategy.

Secondly, the involvement of the local government and the affected people in the three cases also proves the different styles. In NAD-Nias, the local government was highly involved because, specifically for NAD was the conflictual province. The rehabilitation and reconstruction period could be a platform for peace in this area. However, the involvement of the affected people could not be seen clearly as the regulation only mentions the influential figures to be involved in the strategic positions and execution. Like the NAD-Nias case, the local government in Central Sulawesi was also recognized as an influential figure, taking a role as the overall rehabilitation and reconstruction leader. Unlike the NAD-Nias situation, the local government in Central Sulawesi acted as the front liner in implementing the rehabilitation and reconstruction, covering the data collection, data verification, determining the relocation location, permits, distribution of aid, and many more. The affected people in Central Sulawesi were also not directly involved in the rehabilitation and reconstruction or represented by the local government. Significant differences can be seen in the Yogyakarta-Central Java case. The local government was recognized as the influential figure in implementing the rehabilitation and reconstruction, acting as the leader in executing the rehabilitation and reconstruction. The affected people were highly involved as the executor by forming community groups (POKMAS).

Thirdly the three cases use two different paradigms in disaster management, which resulted in a different role of the disaster management agency. In NAD-Nias and Yogyakarta-Central Java case, Indonesia still uses the emergency response paradigm in its disaster management. Therefore, the role of the disaster management agency at that time was limited to emergency response and preparing the condition to implement the rehabilitation and reconstruction. On the other hand, in the Central Sulawesi case,

Indonesia uses the preventive and resilient disaster management paradigm. Thus, the presidential instruction clearly stated that the National Disaster Management Agency is involved in the whole program from the emergency response until the rehabilitation and reconstruction, including but not limited to further mitigate and prepare the affected people and area towards future disaster.

4.2 The Practiced Policy Implementation Approach Contribution Towards Attaining Disaster Resilience

This chapter discusses the contribution of implementation style towards attaining disaster resilience. It explains the contribution of implementation style in NAD-Nias and Yogyakarta-Central Java towards disaster resilience, followed by the Central Sulawesi case.

In the case of NAD-Nias, the rehabilitation and reconstruction effort begun with the issuance of a Government Regulation in Lieu of Law Number 2, 2005, concerning the Agency of Rehabilitation and Reconstruction of the Area and Community of NAD and Nias Islands, North Sumatra Province (BRR NAD-Nias) (BRR NAD-Nias, 2009). The whole process was in the hand of the Ministry of National Development Planning Agency through the BRR NAD-Nias as the authorized body despite the frequent changes of the members. The program used, dominantly, the Top-Down Approach with the combination of the Bottom-Up Approach. It is because a particular approach was needed for the conflictual province and almost wiped-out area. The Bottom-Up Approach can be seen from the involvement of the people, especially the ex-member of GAM, as the effort to follow up the peace agreement that was signed in August 2005 between GAM and Indonesia. Additionally, the local government was given a role as the vice head of the executive board with the duty to implement the rehabilitation and rehabilitation.

The Yogyakarta-Central Java case was noted as the only case between the three cases used in this research, which showed the dominant Bottom-Up Approach in implementing rehabilitation and reconstruction. The program started with the issuance of the presidential instruction followed by the formation of ad hoc organization, the

same as the NAD-Nias and Central Sulawesi case. The local government, positioned as the leader of the program implementation, then issued a regulation stating that the rehabilitation and reconstruction implemented through the community's group and clearly stated that the Central Government functioned as the policy maker, strategic planner, and facilitator for the program.

In the Central Sulawesi case, the implementation of rehabilitation and reconstruction policy is coordinated by the vice president at the national level and the inter-organization is coordinated by the National Disaster Management. Meanwhile, at the local level, the implementation is coordinated by the Governor of Central Sulawesi. The coordination line is performed to accelerate the implementation process of rehabilitation and reconstruction in Central Sulawesi.

The previous sub-chapter, from the informant from the Disaster Management Task Force, Presidential Instruction number 10, 2018, and the General Secretary Decision Act of Ministry of Public Works and Housing, explained that the Central Sulawesi case uses a combination of the Top-Down and Bottom-Up Approaches. The Top-Down Approach is coming from the central government, through the issuance of the presidential instruction number 10, 2018, as the one who instructs the related ministerial, institutions, and even to the local government about how the policy should be implemented. Also, it is the Ministry of Public Works and Housing at the national level who issued the General Secretary Decision Act number 133/KPTS/SJ/2020, as the basis of the Disaster Management Task Force for Central Sulawesi establishment including all the duties and responsibilities for the implementation of the rehabilitation and reconstruction. Furthermore, the formation of an ad hoc team from the Ministry of Public Works and Housing has confirmed the action of implementation from the main guideline for rehabilitating and reconstructing Central Sulawesi in post-disaster.

Whilst the Bottom-Up Approach is reflected from the indirect involvement of the people through the local government as the authorized supervisor of the implementation in the field and as data collector, according to the informant and Presidential Instruction Number 10, 2018. Besides, the affected people are, actually, directly involved in the provision of permanent housing using the in-situ scheme. Unfortunately, this scheme is beyond the focus of the ad hoc team and the presidential

instruction. In addition, the people are involved in another form, that is through the social organization such as Budha Tzu Chi.

Overall, the implementation of the rehabilitation and reconstruction of permanent housing in Central Sulawesi can be considered inclusive. It is because, in the presidential instruction number 10, 2018, there are four coordinating ministries, 25 ministries, Commander in Chief of Indonesian Forces, attorney general, The Audit Board of the Republic of Indonesia, Commander in Chief of Indonesian Police, National Disaster Management Agency, National Public Procurement Agency, and local government. This legal basis is also mandated to have a cooperation with a necessary strategic partner such as enterprises, the people, international institutions, and others.

The rehabilitation and reconstruction in Central Sulawesi aim to restore the life of the people as soon as possible. Affirmed by the informant from the Disaster Management Task Force that the objective of the Disaster Management Task Force for Central Sulawesi is to recover from trauma and improve the community's proficiency in all life's aspects or to have a better life through the implementation of build back better. In addition to the objective, the rehabilitation and reconstruction in Central Sulawesi utilize any possible resources in domestic, national, and international. It refers to human resources, material resources, and financing. For example, the use of expertise in planning, programming, supervising, monitoring, and evaluating the rehabilitation and reconstruction which coming from the internal of Ministry of Public Works and Housing. Additionally, from the informant from the Disaster Management Task Force, there is no limitation on using resources to implement the policy. It is proved by the involvement of state-owned enterprises, the cooperation with the Yayasan Budha Tzu Chi in the permanent housing provision, and the openness of the government to the international donor to fund the project, such as from the World Bank, JICA, and ADB.

According to the discussion about resilience that has been presented in Chapter II, resilience originated from the word *resilire* which means to bounce off (Benedikter & Fathi, 2017). There are four schools in resilience based on the method that they use to attain resilience, that is government-centric, community network, scientific-based, individual/liberal approaches. In its intersection with disaster discourse, resilience refers to the ability of the affected-live to accept, survive, transform, recover, and

getting better from the harms caused by the hazards (UNISDR, 2017; DFID, 2011). It includes the ability to learn from the experience, aiming to reduce the degree of exposure over the future hazards. Later, the ability to get better and reducing the harms of future hazards is conceptualized as Build Back Better which is also perceived as an approach to attain resilience (Mannakkara & Wilkinson, 2014).

Currently, disaster resilience acknowledges disaster risk reduction as the effective approach to attain disaster resilience (UNDRR, 2015b). It is a holistic approach involving multi-actors, covering multi-sector and having an objective to maintain the sustainability of development (UNISDR, 2015). It is expected that the DRR is implemented as a result of Top-Down and Bottom-Up Approaches combination, although, according to the literature, there is no single system that can fit all circumstances (UNDRR, 2015a). This concept also defines the characteristic of resilience society (UNDRR, 2015b):

1. The ability to anticipate risks, that is the ability to digest and weigh the risks
2. The ability to adapt to the uncertainty of the future risks by using any possible measures to support the decision-making
3. Dissemination and learning meaning that leverages people's flexibility to deal with different challenges, let them have a better understanding of the situation or trying different methods, enhance their understanding of risks and support flexibility
4. Consolidate multi-sectors, that is encouraging more discussion and coordination across sectors and disciplines
5. Inclusive to the most vulnerable, by managing risks at all levels, integrating decision-making, and involving the most vulnerable into the consideration (UNDRR, 2015b)

To achieve the objective and creating a resilience society, according to the above characteristic, disaster management offers three main strategies (UNISDR, 2015):

1. Prevent the possibility of the new risks
2. Dealing with the pre-existing risk
3. Disseminate and the risk to prevent losses caused by disaster being captured by development results and creating additional poverty (UNISDR, 2015)

Looking at the objective of the three cases of permanent housing rehabilitation and reconstruction showed how the disaster management paradigm is shifting from the responsive-based to preventive-based. In NAD-Nias and Yogyakarta-Central Java case, the objective clearly stated in the legal basis of the rehabilitation and reconstruction program only said that they wanted to bring back the situation in pre-disaster. Although there was a statement of optimism, it never stated anything about building back better. Meanwhile, in the Central Sulawesi case, the rehabilitation and reconstruction objectives are to restore the life of the people, revive from trauma, improve people's capacity in all life's aspects, and have a better life. From this point, it can be seen that there is progress in attaining disaster resilience in Central Sulawesi because the element of disaster resilience which is to survive, revive, and get better, can be found in its objectives. Compared to the precedents, the element of disaster resilience could not be found in its objective even though there were many improvements in the early warning system, evacuation procedure, disaster management structure, and many more. Still, it should be from a different angle.

In the bigger picture, the rehabilitation and reconstruction program in Central Sulawesi also conforms to the concept of disaster risk reduction, which has been explained previously, as the current effective approach to attain disaster resilience. This conformity can be found in the use of the implementation approach in conducting the rehabilitation and reconstruction, including the provision of permanent housing, which uses the combination of Top-Down and Bottom-Up Approaches. Besides, the inclusivity of rehabilitation and reconstruction is another prove that disaster resilience is trying to be attained.

Additionally, Central Sulawesi implements a different style of rehabilitation and reconstruction compared to the precedents. Despite its spectrum of situations and happened after the disaster management law reform in 2008, unlike the NAD-Nias and Yogyakarta-Central Java cases, the Central Sulawesi case uses a combination of Top-Down and Bottom-Up Approaches. The Central Sulawesi case focuses more on the relocation scheme; therefore, the government uses the contractual approach, which in this case is executed through the Disaster Management Task Force. Understanding that NAD-Nias was a conflictual area and almost wiped out by the disasters, the government decided to hold the BRR NAD-Nias responsible for the program. In the Yogyakarta-

Central Java case, where housing was the hardest hit sector and the special autonomy of Yogyakarta in governing, the community group approach was considered to be the best approach to rehabilitate and reconstruct. It proves that there is no single policy or style that can be applied in all situations.

From these implementation styles in the three cases, the researcher believes that there are some contributions to attaining disaster resilience. For example, in NAD-Nias, generates at least three critical points: first, the importance of proper disaster management, not only responsive but also preventive. Therefore, there should be a change in the disaster management paradigm and its derivative policy. This idea finally came in 2007, when the government decided to issue a Constitution Number 24 about Disaster Management. Second, despite the severity of the disaster, the significant number of losses due to the earthquake and tsunami in NAD-Nias implied that Indonesia, specifically NAD-Nias, was not ready to face such a disaster. The government realized that it is vital to invest in early warning systems, evacuation plans, and disaster management-related policy. Third, the emergence and the rise of the new approach in attaining disaster resilience by William J. Clinton, the Build Back Better Approach (Clinton, 2006).

In Yogyakarta-Central Java, rehabilitation and reconstruction using the community group approach (Governor Regulation, 2006) became the unique approach. It empowers the involvement of the affected people to work on rehabilitation and reconstruction. The practice widens the perspective of an alternative approach in seeking the best approach to optimize rehabilitation and reconstruction for the sake of the affected people.

The typical policy implementation approach used in Central Sulawesi generates at the very least three main points, firstly, even though the informant did not say it explicitly, but the disaster event, more or less, becomes an alarm to the governments at both the local and national level, and the people that their region is not an exception from any kind of disasters, including earthquake, tsunami, and liquefaction. The data from Indonesian Disaster Data and Information confirms the statement, by showing that approximately 329 disasters happened in Central Sulawesi from 1910 until 2019 dominated by climatological disasters such as floods and landslides (BNPB, n.d.). Meanwhile, the BMKG and Ministry of Energy and Mineral Resources acknowledged

that there were at least seven notable earthquakes and tsunami in Central Sulawesi from 1907 until 2012 out of 32 events ever recorded by the BNPB before the earthquake and tsunami in 2018 (BNPB, n.d.). Therefore, intuitively, the region is either did not ready or ignore to prepare for the earthquake, tsunami, and liquefaction although the record is existing.

Secondly, the earthquake and tsunami in Central Sulawesi triggered the government and related stakeholders to be more ready to face such a typical disaster. This case can be found in the issuance of the disaster-prone zone map on 19 December 2018 (Badan Meteorologi, Klimatologi dan Geofisika [BMKG], 2018; Radar Sulteng, 2018). The map is the results of the five institutions working together: The Ministry of National Development Planning or National Development Planning Agency, Ministry of Agrarian Affairs and Spatial Planning, Meteorology, Climatology, and Geophysical Agency, Ministry of Energy and Mineral Resources, and Ministry of Public Works and Housing and then signed by regents and mayor of Donggala District, Sigi District, and Palu City. The issuance of the map brings a consequence that is to relocate any buildings or settlement areas on the disaster-prone area to safer locations (BMKG, 2018; Radar Sulteng, 2018). However, this map only covers the disaster-prone zone based on the current disasters instead of a comprehensive disaster-prone zone map for the whole disaster potency in Central Sulawesi. Nonetheless, at the very least, the government has an attempt to address the mitigation and preparation stages by utilizing the rehabilitation and reconstruction phases.

Lastly, the disasters had leveraged the quality of design and structure of the buildings and houses in Central Sulawesi. The fact that the disaster had damaged 100,405 units of houses (Tandigala, 2019), can be inferred that it is either the impact of the disaster was too strong, or the buildings did not comply with the disaster-resistant standards. Anyhow, in both cases, improving the design and structure of the buildings is important so that the people will get lesser exposure to the future hazards in terms of housing. Therefore, the government steps in through the ad hoc team from the Ministry of Public Works and Housing by implementing the disaster-resistant buildings and housing design and structure in rehabilitation and reconstruction.

Sendai Framework for action has highlighted the urgency to implement the Build Back Better Approach in rehabilitation, recovery, and reconstruction. It is

because it acknowledges the responsibility of the government to prevent and reduce the disaster risk and its impact on the people, assets, health, and livelihood. Besides, the government also needs to advocate and protecting human rights and the rights of development. Additionally, the approach recognizes the governments' limited capacity to provide a comprehensive disaster risk reduction program from mitigation, preparedness, emergency response, rehabilitation, and reconstruction. Therefore, the approach suggests that the rehabilitation and reconstruction stage can and shall be used to mitigate and prepare the affected people and area to be ready for the future disaster risk.

The Build Back Better Approach has shifted the common practice of post-disaster; from immediate fixing material so that the people can immediately start over their life to a more comprehensive and extensive practice of rehabilitation and reconstruction (Mannakkara & Wilkinson, 2014). It is because Build Back Better includes not only immediate fixing on material but also material and non-material improvements such as standard improvements in terms of land use program, structural, and the sharing of proficiency, insight, and post-disaster reviews, aiming to reduce the exposure and have a better preparation on the future hazards, and better life (Mannakkara & Wilkinson, 2014). In addition, the implementation of the Build Back Better Approach in rehabilitation and reconstruction also brings the integration of the rehabilitation and reconstruction to the economy and social development to gain a more sustainable disaster prevention and mitigation, and development (UN, 2015). Especially in housing rehabilitation and reconstruction program, the Build Back Better Approach adopts three main principles (Maly, 2017):

1. Support livelihood recovery
2. Involve people
3. Design and construction that fits with the people needs

The Build Back Better Approach in rehabilitation and reconstruction in Indonesia is reflected in the main guideline, the Constitution Number 24/2007. It states that the government demands rehabilitation and reconstruction involve better construction and structure to resist the future disaster (Constitution, 2007). Though it is not explicit, at the very least, there is a similarity in the narrative pattern of the statement in the main guideline with the Build Back Better Approach, that is the rehabilitation

and reconstruction program should go beyond immediate fixing the material of the affected area so that it will no longer get affected on the future hazards. Nevertheless, the Build Back Better Approach can be explicitly found in the Chief of National Agency for Disaster Management Regulation Number 6, 2017 about the Implementation of Rehabilitation and Reconstruction as among the eight principles in implementing the rehabilitation and reconstruction.

The master plan of the rehabilitation and reconstruction for NAD-Nias has the objective of bringing back the life of the people. The effort of rehabilitation and reconstruction focusing more on rebuilding and reconstructing what has been destroyed and making it the same as in the pre-disaster situation (Presidential Regulation, 2005). This situation is understandable considering the paradigm of disaster management in Indonesia, at that time, was limited to responsive-based. However, the master plan has an optimistic sense, saying that the government and the people will revive from the impact of the disaster even better (Presidential Regulation, 2005).

Meanwhile, the researcher saw that there is no specific statement about building back better in Presidential Decree Number 9, 2006 and Governor Regulation, 2006 in the Yogyakarta-Central Java case. Both regulations only focus on the formation of the coordinating team and reconstructing an earthquake-resistant house. There is no regulation about relocating the people from the former locations, unlike the current housing reconstruction general guideline and in the Central Sulawesi case under the reason of safer place, considering the hazard maps. Nonetheless, in the Yogyakarta case, a community-based approach accommodates the people-centered approach by involving the people from planning until the execution of the reconstruction.

The government in Central Sulawesi can no longer ignore or take the geological data lightly anymore. This reflection gesture is proven by the making and issuance of a disaster-prone zone map in Central Sulawesi based on the joint investigation and study from five related institutions: The Ministry of National Development Planning or National Development Planning Agency, Ministry of Agrarian Affairs and Spatial Planning, Meteorology, Climatology, and Geophysical Agency, Ministry of Energy and Mineral Resources, and Ministry of Public Works and Housing and then signed by regents and mayor of Donggala District, Sigi District, and Palu City. A report from the media stated that there are many buildings and living areas located in the disaster-prone

zone, including but not limited to settlement areas, tourist accommodation and attraction, mining, offices, and many more (Putri, 2019). It is assumed that either the government in Central Sulawesi ignoring the geological data and disaster-prone zone map, or the data is not integrated into the spatial planning. Government officials in BMKG and the Ministry of Energy and Mineral Resources have admitted that Central Sulawesi was not ready to face such disasters. There were disaster mitigation documents, but, somehow, missing. It was neither included in spatial planning, nor socialized to the people (Andiani, Oktariadi & Kurnia, 2018; BMKG, 2018; Djamal & Aini, 2018). Then, the disasters happened and took away many lives and assets.

In an issuance ceremony of disaster-prone zone map, the Central Sulawesi Government and five related institutions demonstrated their commitment to conducting investigations and preparing Central Sulawesi further to face disaster risks in the future (BMKG, 2018). The disaster-prone zone map will be integrated into the spatial plan and will be revised accordingly. One of the first steps to implement it is through relocating the affected people, who previously lived in disaster-prone areas, to safer locations amidst the pros and cons in the society (Radar Sulteng, 2018). Herewith, the researcher saw that the government committed to take the tough decision because they do not want a similar case to happen again in the future. Besides, the government also working hard to improve the settlement area including but not limited to the building design and structure so that the people will not get (or less) affected by disaster risk in the future.

The government realizes that relocating settlement areas and preparing affected people to face disaster risks in the future is not only about physical improvement, but also in social and economic. Therefore, the government trying its best to provide locations that are not far from their main job locations yet safer. Also, the government equipped the settlement area with infrastructure, social, and economic facilities so that the people can continue their life conveniently. Although, there are still many problems remaining, such as the vulnerable people who still do not know their status over the permanent housing (Litha, 2019). The government only grants permanent housing for those who can prove the ownership status over the land and/or house, while these people only rent a house or land to live (Kumparan, 2019). They get nothing from the government aid on housing. There are no other options left for them, except going back

to their original place in pre-disaster to continue their life although they know that they cannot live in a disaster-prone zone. Others, the people become vulnerable because of the data accuracy that the local government collected, as has been mentioned in the earlier chapter. Nonetheless, the government both at the local and national level have tried their best to support the livelihood recovery by rehabilitating and reconstruct the settlement area along with the infrastructure and facilities, involve the people in implementing the program, and fitting the design and construction with the people's need.

Finally, it can be concluded that the rehabilitation and reconstruction in Central Sulawesi have adopted the Build Back Better Approach as mandated by the main guideline, especially in permanent housing through Top-Down and Bottom-Up Approaches. Build Back Better Approach as the current approach in disaster risk reductions, requires comprehensive and extensive cooperation among the related party to generates comprehensive and extensive improvement on the affected people and area. The implementation can be seen from the issuance of the disaster-prone zone map and its integration in spatial planning. Affected communities have also been relocated to safer places along with the feasible basic infrastructure and facilities. This is to ensure that they can continue their lives comfortably and can avoid (or reduce) the impact of future disaster risks. The cooperation from the people to cooperate and willing to be relocated to the new place, the local government who working on data collection, and the national government through the Disaster Management Task Force who ensure that the rehabilitation and reconstruction in Central Sulawesi going well according to the main guideline as well as the president's instruction; all of this proves the Top-Down and Bottom-Up Approaches in implementing Build Back Better Approach.

Concluding the chapter, there is a significant improvement in attaining disaster resilience from implementing rehabilitation and reconstruction in NAD-Nias, Yogyakarta-Central Java, and Central Sulawesi. It can be found that the authorized body executing the rehabilitation and reconstruction is getting more transparent and stable compared to what happened in NAD-Nias. However, it was due to the integration with the ex-member of GAM. But at the very least, the changes could no longer be found in the case of Yogyakarta-Central Java and Central Sulawesi. Moreover, the distribution of responsibilities between the Central Government and the Local

Government getting better since the case of NAD-Nias. The improvement of the fundamental disaster management structure in Indonesia should be highlighted. The disaster management law reform in 2007 was triggered by one of the factors, the two cases in NAD-Nias and Yogyakarta-Central Java. It resulted in the shifting of the disaster management paradigm from responsive-based to be more preventive-based. Lastly, the government started to take the disaster management issue more seriously because it causes a tangible impact on the life of the people and the state. The investment in the early warning systems, the National Disaster Management Agency, the issuance of disaster-prone zone map, the integration of disaster management policy and strategy in the development plan are among the physical products of the government commitment to attain disaster resilience in Indonesia.

4.3 The Challenges of Implementing the Housing Reconstruction Policy Towards Attaining Disaster Resilience

There are no best style fits all situation in policy implementation, including in rehabilitation and reconstruction in Indonesia. Although the community-based scheme has proven to go well in the previous events, it does not mean it applies well in Central Sulawesi. Three disasters that happened at one time from the earthquake, tsunami, and liquefaction with a high-rate occupancy above the dangerous area require a massive relocation during the rehabilitation and reconstruction to avoid (or at least lessen) the exposure of future hazards. This situation makes Central Sulawesi case different from the other precedent presented in the literature review, thus, require a different approach and solution.

Indonesia's constitution has mandated the decentralization of governance from central to local and including disaster management. Furthermore, disaster risk reduction guideline emphasizes the importance of cooperation from all related party including but not limited to the central government, local government, the affected people, international organization, civil society organization and many more. This policy is to make sure that the disaster risk reduction can optimally help to avoid or at least reduce

the disaster risk exposure to the people and its asset, and no one is left behind, thus, sustaining the development (UN, 2015).

Following the main guideline of rehabilitation and reconstruction in Indonesia, the presidential instruction was issued to four coordinating ministries, 25 ministries, Commander in Chief of Indonesian Forces, attorney general, The Audit Board of the Republic of Indonesia, Commander in Chief of Indonesian Police, National Disaster Management Agency, National Public Procurement Agency, and local government, showing the pattern of the Top-Down Approach. The inclusion of local government, the affected people, and non-governmental organization in the rehabilitation and reconstruction program in Central Sulawesi proves the use of the Bottom-Up Approach.

So far, according to the informant, the rehabilitation and reconstruction in Sulawesi are in progress of making the permanent housing in three villages, which are Tondo (Palu City), Duyu village (Palu City), and Sigi District (Pombewe village) as designated in Central Sulawesi Governor regulation. The permanent housing provision for the affected people uses a contractual scheme under the responsibility of the Disaster Management Task Force from the Ministry of Public Works and Housing. Meanwhile, some in-situ rehabilitation and reconstruction schemes will be taken care of by BNPB. The provision of permanent housing and its infrastructure and facilities planned to finish in 2024, then the affected people with the prove of land and/or house ownership can move from the current temporary housing, the informant said.

Although the Indonesian government received many compliments on the disaster response in NAD-Nias and Yogyakarta-Central Java, it was not a perfect program. For example, in the NAD-Nias case, at least two notable critics emerged: the temporary housing forum (FORAK) protest and the ill-prepared government on managing the assets during the rehabilitation and reconstruction. The protest, launched by FORAK, led by Panji Utomo, had been going on for a long time, but it was escalated on 19-20 September 2006 at the BRR NAD-Nias office (Burhani, 2006; DetikNews, 2006a, 2006b). The protest, which had taken the leaders of BRR NAD-Nias as hostages, basically demanded several things from BRR NAD-Nias, including the right to permanent housing, scholarships for children, and economic empowerment. Before protesting, representatives of FORAK and BRR NAD-Nias had met to present their aspirations. BRR NAD-Nias has also signed a statement stating that BRR NAD-Nias

will soon build permanent houses, provide economic empowerment programs, and involve FORAK representatives in BRR NAD-Nias along with incentives. However, FORAK then presented a draft agreement in which one of the clauses stated that all program funds had to be transferred to the FORAK bank account as a form of partnership between BRR NAD-Nias and FORAK. Of course, this was flatly rejected by BRR NAD-Nias because the organization responsible for implementing the rehabilitation and reconstruction in NAD-Nias operates using the state budget, so it must be managed and used under applicable rules and laws. The police officers then forcedly dismissed the protest and held the director of FORAK accountable for delivering aspirations with the commotion (DetikNews, 2006a, 2006b).

The second critic came from the capacity of the local government in NAD-Nias to manage the assets (Adamy, 2021). The critic comes from a paper titled "*Leaving Problematic Assets Behind: Lessons from Post- tsunami Reconstruction in Aceh*", researching lessons learned from post-tsunami reconstruction in NAD, specifically government assets. It is stated that there were massive projects of assets reconstruction in NAD. Unfortunately, it went mutually exclusive with the capability of the local government in managing the assets. The government has given four years for the BRR NAD-Nias to execute the rehabilitation and reconstruction. The paper said it is considered a short time, considering that the local government has to start over their activity due to the massive loss. By the time BRR NAD-Nias was dismissed, many assets with no official paperwork, ambiguous ownership, and damaged assets were not optimally functional and not finished. The article also noted a lack of mutual understanding between the BRR NAD-Nias and the local government, concluding that the local government's role is merely ceremonial. Finally, the report claims that the BRR NAD-Nias has failed to comply with the Indonesian regulation's administrative requirement for turning over the listed asset (Adamy, 2021).

On the contrary, only a positive narrative can be found among the published articles on the news and academics. The Bottom-Up style in community approach gained worldwide attention and was praised for its contribution to accelerating rehabilitation and reconstruction (Shalih, 2019). The narrative suggests that the governor's regulation on the execution of rehabilitation and reconstruction played a crucial role in directing the process. The post-Yogyakarta-Central Java earthquake

often to be a destination to study more on the process of the rehabilitation and reconstruction, like the public works and housing agency of Central Sulawesi (Shalih, 2019).

Although the rehabilitation and reconstruction in Central Sulawesi seem to be so inclusive and comprehensive on the paper, the informant said that the progress of the rehabilitation and reconstruction is stagnant since it started two years ago. The Disaster Management Task Force encountered some obstacles and challenges, which also progressing moderately. It has resulted in a scenario where the prospective occupants cannot occupy the permanent housing because the construction for the settlement infrastructure does not yet start. Meanwhile, the permanent housing construction had begun in February 2020 by the Ministry of Public Works and Housing. In addition to that, here is a list of concerned issue that are still problematic or missing during the process of the rehabilitation and reconstruction in post-disaster in Central Sulawesi, that become the obstacles and challenges for everyone working on it especially the Disaster Management Task Force, which classified as land acquisition issues, social issues, and design and planning issues.

1. Land Acquisition issues:

1) Overlap land claims by some parties, land border, land certificate, and land condition are among the discussed issue over the land space waiting to be solved by the local government

2) To address the above issue, the government aims to regulate it. However, the regulation on the land ownership status of the affected people is not yet finalized.

2. Social issues:

1) The people expect compensation for their origin land space due to the relocation that they have to follow. However, the government has stated that permanent housing for the people is not compensation but aid. Therefore, the people should not rely on the government because they have a limited capacity in covering the affected people and areas.

2) Some affected people want permanent housing to be built on their origin land space

3. Design and planning issues:

1) The site plan for the settlement area is not issued yet. Meanwhile, the occupation capacity in a relocation area and the guidance for preparing the settlement infrastructure and facilities are made based on the site plan. It includes the additional 300 units of permanent housing from the donor that is not in the original plan.

2) The location of additional permanent housing, including satellite permanent housing and self-support relocation housing, is not finalized yet. The prospective occupants' list, disaster-prone zone recommendation from the district government for the location of the Lompio Satellite permanent housing in Donggala District are not yet issued.

3) The absence of environmental documents for all building construction activities, debris management plan, traffic impact analysis, building permit, and certificate of acceptability for permanent housing and all buildings

4) Eventually, Anutapura Hospital stood on the liquefaction zone, according to the letter of the Head of Agrarian Affairs and Spatial Planning Office in Palu City Number 650/ 33/I/DPRP/2020 dated 10 January 2020 regarding City Spatial Planning which issued after the tender design and process has been ready to perform. Consequently, the rehabilitation and reconstruction could not be continued

5) In terms of water resources and waste management, deep-water wells have not been found even after three drills. The drainage system from the reconstructed area is unconnected to the primary drainage or river. Also, the institution taking care of the drinking water management system, waste management system, domestic wastewater management system is unavailable.

From the above issue, it can be seen that those obstacles and challenges are not easy to solve. It is not only about the government but also many parties and aspects. Therefore, the informant said that the Disaster Management Task Force worked tirelessly to sort out the obstacles and challenges by intensely coordinate with the related strategic parties internally and externally, both the government and non-government sides. Indeed, ready-to-occupy permanent housing should be available as soon as possible so that the affected people can permanently move and settled to continue their life. But it does not mean it can neglect the quality. The informant said

that the implementation of the technical and cost standard should still be the priority. Additionally, the informant also gives attention to the needs of information technology to get and maintain the data accuracy of the affected people. The availability of GIS-based data is equally prominent for the government to ease the aid distribution to those who are in need, the informant added.

The researcher concluded that only the Yogyakarta-Central Java case has almost zero criticism on implementing rehabilitation and reconstruction using the community-based approach. It is because the researcher cannot find any single news, article, or textual proof on the obstacle and challenges on the rehabilitation and reconstruction in Yogyakarta-Central Java. Further study is definitely needed for the Yogyakarta-Central Java case. While both cases, the NAD-Nias and Central Sulawesi faced many obstacles and criticism on the implementation. It proves that there is no single system available for all in any way, and no system is perfect. In both cases, the NAD-Nias and Yogyakarta-Central Java did not mention the build-back better approach in attaining disaster resilience, but only an optimistic statement. The Build Back Better Approach is a comprehensive and extensive approach to solving comprehensive and extensive problems in the rehabilitation and reconstruction period.

Moreover, the responsibility to make sure that the affected people and area are safe, or at least get less exposure from the future disaster, is in the hand of the government. So, a long list of obstacles and challenges should be the common thing. The Build Back Better Approach expects the creation of a resilient society that can absorb the disaster risks and sustain the existing development. The multi-actors and -issues were involved in the implementation to create a better people and situation so that the obstacles and challenges can be well addressed and optimal.

4.4 Proof of Hypothesis

Table 4.2 Proof of Hypothesis

No	Theory and Concept	Research Question	Hypothesis	Research Guideline	Findings
1	Public policy: Implementation	How does the housing reconstruction policy is implemented in Central Sulawesi?	Indonesia's government implements a housing reconstruction policy in Central Sulawesi by using aTop-Down Approach through a contractual scheme coordinated and supervised directly by a special team from the central government through the Ministry of Public Work and Housing and building back better is clearly stated in the policy. People are not involved in the design, construction, and decision-making process, although the responsible team for the	a. There is a clear set of objectives of the policy, set by the stakeholder (decision-makers). b. There is a clear set of procedures to implement or achieving the objective of the policy. c. There are actors involve in the policymaking and the implementation. d. The use of sources, both material and non-material, to	The Central Sulawesi case is following the Indonesian Constitution and Law regarding disaster management. It is made at the Central Government level which, sets out the objective, procedure, resources, and related issues. It is proven that Central Sulawesi uses a contractual scheme coordinated by the Disaster Management Task Force formed by the Ministry of Public Works and Housing at the Central

Table 4.2 (continued)

No	Theory and Concept	Research Question	Hypothesis	Research Guideline	Findings
			reconstruction has an attempt to synchronize the size of the family with the constructed house. There is also improvement in terms of construction and spatial planning as it is stipulated in the general policy on housing reconstruction.	support the policy implementation. e. In the case of theTop-Down Approach: there is a clear hierarchical structure to implement the policy. f. In the case of the Bottom-Up Approach: there is an acknowledgment on the street-level bureaucrats.	Government level. However, unlike the hypothesis, the local government and the affected people are still involved in this program. Making Central Sulawesi case uses not only aTop-Down Approach but also a Bottom-Up Approach.
2	Build Back Better Approach in achieving disaster resilience	How does the policy implementation approach style in implementing the housing reconstruction policy can contribute towards attaining disaster resilience for the affected	The contribution of the practiced policy implementation approach towards attaining disaster resilience for the affected people in Central Sulawesi can be seen from the objective that has been set, the procedures that operated on the fields,	a. There should be a lesson learned adapted to the development plan aiming to reduce exposure to future hazards. b. It is an extensive rehabilitation and reconstruction beyond a	Indonesian disaster management guidelines on permanent housing rehabilitation and reconstruction program mention the Building Back Better approach, and so in the Central Sulawesi case. Using both the top-down and bottom-up

Table 4.2 (continued)

No	Theory and Concept	Research Question	Hypothesis	Research Guideline	Findings
		communities in Central Sulawesi?	the involved actors, and resources that are used to perform the rehabilitation and reconstruction in Central Sulawesi.	mere immediate fixing of the affected area. c. It should support the livelihood of the people and involve people during the process. d. The design and construction should fit the people's needs. e. The outcome is the ability of the people to accept, survive, transform, and recover from the consequences of hazards.	approaches, the Central Sulawesi become more aware of the potential hazards in their area. A disaster-prone zone map is issued, the settlement area in the dangerous zone relocated, an improvement on buildings' structure and design, and a government commitment to enforcing the disaster management plan on spatial planning. These are among examples of the lesson learned from the three disasters that have happened, which are also the key to attaining disaster resilience. Herewith, confirming the

Table 4.2 (continued)

No	Theory and Concept	Research Question	Hypothesis	Research Guideline	Findings
					hypothesis that the implementation style contributes to achieving disaster resilience.
3		What are the challenges of implementing the housing reconstruction policy towards attaining disaster resilience for affected communities in Central Sulawesi?	There are some challenges in implementing the housing policy in Central Sulawesi. It comes from the central government, local government, and the affected people and resulted in many problems remain		Confirming the hypothesis, the implementation of permanent housing rehabilitation and reconstruction program, using the combination of Top-Down and Bottom-Up Approaches, cannot guarantee that the program will run smoothly. There are three main issues as challenges and obstacles: land acquisition, social, and design and planning issues. The government needs to address such challenges at both local and central levels, to make sure that the program can achieve its goal,

Table 4.2 (continued)

No	Theory and Concept	Research Question	Hypothesis	Research Guideline	Findings
					which is to restore the life of the people, even in a better situation.

CHAPTER 5

CONCLUSION, DISCUSSION AND RECOMMENDATION

5.1 Summary of Research Findings

The implementation of permanent housing rehabilitation and reconstruction policy in Central Sulawesi uses a combination of Top-Down and Bottom-Up Approaches. The Top-Down Approach relies on the understanding that the decision-makers set the policy's objective and implementation procedure. The issuance of Presidential Instruction number 10, 2018 reflects the Top-Down Approach, which stipulates the duties and responsibilities of related parties to rehabilitate and reconstruct Central Sulawesi. Specifically, the Ministry of Public Works and Housing, required to execute rehabilitation and reconstruction for the public infrastructure, in coordination with ministerial and institutions, and local government (province and district/city), take necessary actions to accelerate rehabilitation and reconstruction, and be responsible for and supervise the execution in constructing earthquake-resistant houses using self-managed scheme by the people and contractual plan. The Top-Down Approach continues to the extent of the internal of the ministerial and the local government. The formation of the ad hoc team for the rehabilitation and reconstruction in Central Sulawesi is the delegation of the main guideline through the issuance of the General Secretary Decision Act number 133/KPTS/SJ/2020.

The Bottom-Up Approach refers to the recognition of street bureaucrats for a successful implementation of a policy due to its higher exposure and more intense interaction with society as the main target of the policy. In this case, the local government involves as the person in charge of the whole rehabilitation and reconstruction program.

Additionally, the local government also needs to ensure the accuracy of affected people's data, designate relocation locations (small and medium-sized and self-help), specify disaster-prone areas, socialization, and assistance provision, and make it easier to obtain location, environment, and construction permits. Affected people also participate in this rehabilitation and reconstruction program, in the form of an agreement to be relocated as well as in the rehabilitation and reconstruction program with an in-situ scheme. In addition, several external parties also support this rehabilitation and reconstruction program, including non-governmental organizations, civil society organizations, international organizations, and many others.

Specifically, the policy on permanent housing, rehabilitation and reconstruction in Central Sulawesi are implemented using the contractual scheme. It confirms a part of the hypotheses earlier amidst the main guideline and presidential instruction also mentioned the community-based rehabilitation and reconstruction settlement. However, it has been explained in Chapter 4 that because there is a massive relocation compared to in-situ, therefore, on a more practicality level, the ad hoc team focus more on the contractual scheme instead of the in-situ one. Consequently, the involvement of the affected people in this program is minimal compared to the whole program of rehabilitation and reconstruction. They are involved only in in-situ scheme programs financed by the National Disaster Management Agency, and the facilitators from the government, in this case, is the Ministry of Public Works and Housing. The huge damages and losses in Central Sulawesi as the consequences of the disasters generate at least two assumptions: first, the disaster was, indeed, too big so that it is impossible for Central Sulawesi to resist, or second, the buildings, houses, the infrastructure, and the circumstances did not comply with the disaster resilience standard. Therefore, the government utilizes the rehabilitation and reconstruction program to improve the benchmark to make Central Sulawesi more resilient over disasters through a massive relocation program with the contractual scheme.

The rehabilitation and reconstruction program, in Central Sulawesi, must be implemented in an integrated, effective, efficient, and accountable manner. Therefore, the mentioned legal basis involves many actors, including but not limited to non-government institutions, donors, and the people. The financing plan of the rehabilitation

and reconstruction prioritizing the local government budget and supported by the central government and the donors, if necessary, through the central government.

The Central Sulawesi is still following the precedents, started by issuing a legal basis from the central government, which formed a particular body to implement rehabilitation and reconstruction. While for the Bottom-Up Approach, all three cases involved the local government and the affected people, but in a specific spectrum and under unique circumstances. In NAD-Nias, the ad hoc organization came from the National Development Planning Agency, which acted as the policymaker, strategic planning, facilitator, and executor of the rehabilitation and reconstruction. In the Yogyakarta-Central Java case, the body acted limited to policymaker, strategic planning, and facilitator in implementing the rehabilitation and reconstruction policy. Lastly, in Central Sulawesi, the ad hoc organization acted as the housing rehabilitation and reconstruction executor following the policy and strategy of the Central Government.

The involvement of the local government and affected people in NAD-Nias and Central Sulawesi was recognized as an influential figure, taking a role as the overall rehabilitation and reconstruction leader. The local government in Central Sulawesi had an additional role as the front liner in implementing rehabilitation and reconstruction. The affected people in Central Sulawesi were also not directly involved in the rehabilitation and reconstruction or represented by the local government. In Yogyakarta-Central Java, the local government was recognized as the influential figure in implementing the rehabilitation and reconstruction, acting as the leader in executing the rehabilitation and reconstruction. The affected people were highly involved as the executor by forming community groups (POKMAS).

Thirdly the three cases use two different paradigms in disaster management, which resulted in a different role of the disaster management agency. In NAD-Nias and Yogyakarta-Central Java case, Indonesia still uses the emergency response paradigm in its disaster management. In the Central Sulawesi case, Indonesia uses the preventive and resilient disaster management paradigm.

In terms of the contribution of the implemented policy approach, three main points can be the highlight for the Central Sulawesi case. First, the local government and the affected people, at this time, are starting to take geological disasters into their

consideration. Previously, they were more used to climate disasters because of their more frequent occurrences. Therefore, they feel that they need to prepare for a similar disaster in the future by optimizing the rehabilitation and reconstruction program. Second, as proof of getting better spirit and being better prepared to face the possibility of similar disasters, the local government, together with four other relevant institutions, issued a map of disaster-prone zones. The publication of this document also forms the basis for the massive relocation program to a safer location. Third, the implementation of a Build Back Better Approach during the rehabilitation and reconstruction period following the mandate of the Chief of the National Disaster Management Agency regulation number 6/2017 carries a mission to not only restore the lives of the affected people but also improve their quality of life against the effects of the disaster in the future. The implementation of the approach is through reviewing disaster-prone zones, revising regional spatial plans, conducting disaster socialization to the community, and affirming disaster policies in Central Sulawesi.

Looking back at the precedents, the authorized body in charge of rehabilitation and reconstruction is becoming more transparent and stable. Since the instance of NAD-Nias, the division of responsibilities between the Central Government and the Local Government has improved. One of the issues that caused the disaster management law revision in 2007 was the two cases in NAD-Nias and Yogyakarta-Central Java. As a result, the disaster management paradigm has shifted from response-based to prevention-based. Finally, the government began to take disaster management more seriously because it directly influenced people's lives and the state.

Although the Build Back Better Approach is through a combination of Top-Down and Bottom-Up Approaches, inclusive of stakeholders and integrated manner, there are still three categories of obstacles and challenges that need to be addressed. It is related to the residential relocation program for affected residents whose houses are located in disaster-prone zones and were heavily damaged. The second is the perception of the affected people towards permanent housing assistance provided by the government. The people still expect that the government will compensate the land and houses they left behind due to participating in the relocation program. They also suppose that the government can build permanent housing on their original land. Lastly, it is about the design and planning of permanent houses and their infrastructures and

facilities. Concluding the challenges that the government, in this case, represented by the ad hoc team, face in implementing the rehabilitation and reconstruction policy, there is a need to have active support on the legal basis and government action to accelerate the process and makes the people understand what the government wants to do, and what the people get.

5.2 Discussion

This section will discuss how the case in Central Sulawesi is perceived using the policy implementation, and its intersection with disaster resilience.

5.2.1 Policy Implementation

First of all, the policy implementation is perceived as a continuation of policy formulation in the policy cycle model (Page, 2009). It involves four important elements:

1. the presence of action either from the decision-makers or the front liner officer because policy implementation is about taking the policy to practice;
2. thus, it also involves procedures to have a more realistic breakdown of how the policy should be implemented, who will take the responsibility, and so on;
3. therefore, there is an involvement of many actors such as public and private parties within the legal basis, public enterprise, and many more;
4. often, it involves an establishment of a new organization to carry out the policy or a new responsibility appointment to an existing organization (Page, 2009).

The literature review also stated that there is no such general pattern of implementation, neither in the government nor the private parties (Howlett & Giest, 2015). It can also be different implementation in a different case.

There are two schools in policy implementation, that are Top-Down and Bottom-Up Approaches as the popular product of the second generation of public policy implementation studies (Matland, 1995; Paudel, 2009; Winter, 2007). Top-down focuses more on the implementation of a policy using the perspective of the decision-makers. Therefore, it is easier for the government to implement its policy. On the contrary, the Bottom-Up Approach focuses more on the recognition of street-level

bureaucrats or front liners in implementing the policy, because they believe that the people are the factor to either make the policy successful or

Indonesia, as a state, constitutes itself as implementing the Bottom-Up Approach in all sectors except for the six absolute authority comprising foreign policy, defense, security, justice, national fiscal and monetary, and religion since the fall of the new order era in 1998. Like state governance, disaster management also does the same. In its basic guideline for disaster management, it instructs the decentralization of its power by delegating the power at the local level to the local disaster management agency. The precedent of disaster management policy implementation using the Bottom-Up Approach can be seen in the case of NAD-Nias, and Yogyakarta Special Region-Central Java rehabilitation and reconstruction. The legal basis for those two cases explicitly mentioned the establishment of special authority to perform the rehabilitation and reconstruction.

Central Sulawesi case conforming those four elements in policy implementation. Additionally, the non-general pattern of implementation can be found in the Central Sulawesi case. The only difference is the use of the Bottom-Up Approach in implementing the rehabilitation and reconstruction policy. The action as the realization of the main guideline of the rehabilitation and reconstruction in Central Sulawesi is performed by both the central government and local government. The action from the central government can be seen from the delegation of the power to the Ministry of Public Works and Housing in conducting the rehabilitation and reconstruction in permanent housing in Central Sulawesi and further to the ad hoc team which is the Disaster Management Task Force for Central Sulawesi. At the local level, the local government taking an action to compile necessary data and make sure the acceleration of necessary legal documents and regulation to support the rehabilitation and reconstruction in Central Sulawesi. In terms of procedures, the organization chart from the Disaster Management Task Force for Central Sulawesi and its coordination line with the local government, the donor institutions, the affected people, the NGOs, and among the central government institutions. The implementation also involves many actors, namely the ministries and institutions at the central government level, the donor institutions (such as the World Bank, JICA, and the ADB), the local government, the affected people, and the NGOs (Yayasan Budha Tzu Chi). The last policy

implementation element is that the presence of a newly established organization and/or new responsibilities appointment to the existing organization. In the Central Sulawesi case, the newly established organization is used, through the Disaster Management Task Force for Central Sulawesi. Therefore, under the lens of public policy implementation, the Central Sulawesi case is consistently following the research guideline.

Regarding the policy implementation approach, the Central Sulawesi case combines the Top-Down and Bottom-Up Approach similar to the NAD-Nias case but distinguished from Yogyakarta-Central Java cases. Both the NAD-Nias and Central Sulawesi cases demonstrate the use of the element of hierarchical structure and the involvement of the local government. The Top-Down Approach can be seen from the issuance of the presidential instruction number 10, 2018 as the legal basis for the execution of the rehabilitation and reconstruction in Central Sulawesi. The instruction covering the ministries and institutions at the central level, local level, and the other related (external) parties. At the same time, the instruction also recognizes the presence and role of the local government as the front-line officer in Central Sulawesi. Furthermore, Central Sulawesi proves that Indonesia applies various (at least two) implementation styles, and hereby confirming the literature review that there is no single implementation style that fits all (Howlett & Giest, 2015), and so does the disaster management program.

5.2.2 Disaster Resilience

Resilience was firstly used in psychology and educational science studies in the 1950s (Benedikter & Fathi, 2017). Meanwhile, disaster-related studies had used the resilience term since the 1970s which refers to the activity of learning from experiences and reduce the degree of exposure to future hazards (UNDRR, 2015b). Many literatures work stated that resilience should be perceived as a process than results because it involves adaptation, learning, improvement, and anticipation in basic infrastructure, actors, and functions (UNDRR, 2015b). Having an objective of sustainable development, disaster risk reduction appears as today's effective approach to attain resilience, engaging to the huge impact on human lives, economy, and supporting structure and infrastructure after disasters (UNDRR, 2015a; Combaz, 2014). Disaster

Risk Reduction (DRR) though can interchangeably with Disaster Risk Management (DRM) is more about the policy objective and implementation. DRR adopts a people-centered and multi-sectoral approach, responding to multi-layered and interrelated hazards by initiating a culture of prevention and resilience (UNDRR, 2015a).

The Sendai Framework emphasizes that the Build Back Better Approach is prominent in preparing for disasters and should be used as a measure in the recovery, rehabilitation, and reconstruction phases (UN, 2015). The common practice after the disaster can only compensate the communities and material victims of the same pre-disaster conditions. This is not in line with the spirit of resilient communities, so it is necessary to improve practice (one of the methods) by implementing Build Back Better methods.

In the Central Sulawesi case, the effort to attain the disaster-resilient is through implementing disaster risk management by applying build back better. Following the main guideline for disaster management in Indonesia, the informant reveals that rehabilitation and reconstruction in Central Sulawesi have translated the Build Back Better Approach as recovering from trauma and improve the community's proficiency in all life's aspects or to have a better life. Adapting the scope of work from the Ministry of Public Works and Housing, the Build Back Better Approach refers to the construction of buildings, houses, and supporting infrastructures and facilities that are resilient to disaster. Besides, on a wider scale, the government has produced a disaster-prone zone map which then resulted in a massive relocation program.

5.3 Thesis Contribution

Three disasters in Central Sulawesi had killed 4,340 people, 4,438 injured, 172,635 evacuated, damaging 100,405 units houses, and had cost Rp23,14 trillion in the middle of an increasing trend of disaster occurrence, and positioned Indonesia as the highest number of deaths in 2018. Further, Sulawesi, and Indonesia generally, is located in the ring of fire meaning that there is a huge exposure to multi-hazards. Therefore, Indonesia needs to keep learning and adapting to any changes so that the system and the people can be resilient to the disaster and sustaining the development.

This research has examined how the government of Indonesia implements housing rehabilitation and reconstruction in Central Sulawesi by saying that the implementation style is indeed different from the precedents, yet it enriches the implementation of the disaster management policy in Indonesia. Then, it has been explained about the contribution of the implementation style in attaining disaster resilience. The product can be seen from the issuance of the disaster-prone zone map, relocation program, and the implementation of Build Back Better Approach. The research also reveals the challenges in implementing the policy which leads to the lack of political will from the local government to accelerate the necessary process, either regulations or documentations. The findings of this research then generate some insights and recommendations that related actors involved in disaster management in Indonesia, especially in the permanent housing rehabilitation and reconstruction, can consider for better disaster management policy implementation.

5.4 Policy Recommendation

The disaster risk reduction appears as a response to the huge impact on human lives, economy, and supporting structure and infrastructure after disasters or attaining disaster resilience. Indonesia began its disaster management in 1945 focusing on the victims of the independence war. Since then, the disaster management policy has developed according to the change of the "problem" faced by society in disaster-related fields. Data from Indonesia Disaster Information Database (DIBI) shows that there is an increasing trend of disaster occurrence frequency followed by its type. There are approximately 29,221 disaster occurrences between 1950-2020 comprising natural-, non-natural-, and man-made disasters. With the total victim (died and lost, injured, and suffered and displaced) of 50,290,458, natural disaster (89 percent) dominates the occurrence causing 49,582,174 people affected during the period. Among the dominant disasters, climatological and hydrological disasters like floods, tornados, and landslides are the top three contributing 33 percent, 24 percent, and 19 percent accordingly, of the total disasters. While tsunami (76 percent), earthquakes (seven percent), and floods (three percent) are the top three for the deadliest disasters.

Disaster management in Indonesia and its institutional history was begun since the independence of the country in 1945 (BNPB, n.d.). In total, there are eight times changes (development) in the disaster risk reduction, following the time and context which contributes to formulating the disaster risk reduction paradigm in Indonesia. A shift from responsive-based activity to more preventive-based activity in disaster management happen in the last change. Disaster Management Law Number 24/2007 was huge progress to the extent that it is called law reform (BNPB; UNDP Indonesia, 2009; Lassa, 2013). The development of the disaster risk reduction effort in Indonesia can also be found in this research. The permanent housing policy implementation in NAD-Nias, Yogyakarta-Central Java, and central Sulawesi have shown progressive endeavors in achieving disaster resilience in Indonesia. From an ever-changing task force member in NAD-Nias to a steady and transparent procedure and hierarchical line in Central Sulawesi.

But one core problem remains: disaster management has not been seen as a serious matter. This assumption can be seen from the readiness gap between the areas with the experience of severe disasters, like NAD-Nias and Yogyakarta-Central Java, and the areas with less or no experience. The disaster risk reduction at the local level is way better in the area with disasters experience than in other areas with less or no experience, such as Central Sulawesi. It made the law reform on disaster management in 2007, and the government commitment to achieving disaster resilience in Indonesia as written on the law seems to be rhetoric or ceremonial.

Intuitively, this situation happened because the severe disaster has drawn wider attention both domestically and internationally. This attention leads to the massive supply of financing, technology, research, human resources, and many more. Unfortunately, the massive supply seems not to be well distributed to the whole nation and leaving the other areas behind. Else, the other areas only functioned as complementary administrative things from the program implemented in the existing affected area, for example, the presence of the disaster management agency at the local level. Checking on the platform that the people would most likely search in this era, the website, there is a vast difference between the NAD, Yogyakarta, and Central Sulawesi. The people can find almost any information needed regarding disaster management from the local level until the national level on the NAD and Yogyakarta websites. Still,

the opposite situation on the Central Sulawesi website cannot even be opened. The absence of the website in Central Sulawesi is just a straightforward example of the accessibility of disaster management information. At the same time, the researcher believes that many other aspects need equal attention from both local and central governments.

Based on this assumption, the researcher would like to suggest to the central government that there should be stricter regulations on implementing disaster management, especially at the local level. Indeed, Indonesia adopts decentralized governance, where the local government can generate its disaster management strategy. However, the central government should treat disaster management equally as the economy, politics, education, and other issues. For example, from the financing aspect, the central government can no longer use the stand-by budget but permanently allocate the budget to this sector. Herewith, the National Disaster Management Agency can have an adequate (or at least secure the financing sustainability) source to develop disaster management at the national level and the local level. This financing scheme goes the same at the local level. The national and local governments can no longer prioritize the development of a disaster management program based on the intensity of disaster occurrence in an area. The Indonesian disaster management law has recognized that the disaster can be caused by natural, man-made, or technology. In that sense, all areas bear the same threat intensity, so that the focus should be nationwide instead of the specific area. As Indonesia uses the preventive and resilient paradigm in its disaster management, the researcher believes that the government should also change its behavior in developing disaster management. The government should no longer need to wait until a severe disaster, and many supplies come to improve disaster management at the national and local levels. This way, the researcher can approve that the paradigm of disaster management is indeed shifting from response-based.

5.5 Recommendation for Future Study

As stated in the limitation of the study, this research is supposed to be a platform to cross-examine the government and the people regarding the permanent housing

policy implementation in Central Sulawesi. The limitation on field data collection made the research shifted to documentary research. Therefore, the researcher would like to suggest that the future study work on the affected people's perspective. The future study should gain as much information as possible from the affected people and get back to the government perspective presented in this research. Further, the study can also trace the development of disaster management in Indonesia using the people's perspective in Central Sulawesi. This way, future research can further enrich the disaster management discourse in Indonesia, especially on the permanent housing policy implementation.

Linking back to the researcher policy suggestion in the previous sub-chapter brings the idea of the future study about whether the existing improvement on the affected areas and the national disaster management law reform are seasonal or not. As explained previously, the change of the paradigm and law reform happened after a series of severe disasters in NAD-Nias, Yogyakarta-Central Java, and other events, including in Padang, West Sumatera. These disasters bring a bunch of supplies related to disaster management to Indonesia. Therefore, it is intriguing that the disaster management improvement in Indonesia is only utilizing the existing disaster events. In other words, despite using a preventive and resilient-based paradigm, the Indonesian government still does not care much about the disaster-related issue, or the disaster issue is not populist enough to be brought into the political agenda.

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APPENDICES

APPENDIX A

HUMAN RESEARCH ETHICS DOCUMENT

The Mae Fah Luang University Ethics Committee on Human Research
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CERTIFICATE OF EXEMPTION

COE: 154/2020 **Protocol No: EC 20145-23**

Title: A Policy Implementation on Permanent Housing Project in Disaster-Affected Areas in Central Sulawesi, Indonesia

Principal investigator: Mr.Bimo Satryo Wibowo

School: School of Social Innovation

The Mae Fah Luang University Ethics Committee on Human Research (MFU EC) reviewed the protocol in compliance with international guidelines such as Declaration of Helsinki, the Belmont Report, CIOMS Guidelines and the International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use - Good Clinical Practice (ICH-GCP) and decided to exempt the above research protocol.

Date of Exemption: September 17, 2020

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(Assoc. Prof., Maj. Gen. Sangkae Chamnanvanakij, M.D.)
Chairperson of the MFU Ethics Committee on Human Research

Note:
- No continuing report required
- No final report required

บันทึกข้อความ

หน่วยงาน ส่วนบริหารงานวิจัย สถาบันวิจัยและนวัตกรรมมหาวิทยาลัยแม่ฟ้าหลวง โทรศัพท์ ๗๑๗๑ (ศิรินทร์ทิพย์)

ที่ อว ๗๗๔๒(๑)/๑๙๑๕ **วันที่** ๑๗ กันยายน ๒๕๖๓

เรื่อง แจ้งผลพิจารณาโครงการวิจัยที่ขอรับรองจริยธรรมการวิจัยในมนุษย์

เรียน Mr.Bimo Satryo Wibowo

ตามที่ ท่านได้ส่งโครงร่างการวิจัย เรื่อง การดำเนินนโยบายเกี่ยวกับโครงการที่อยู่อาศัยถาวรในพื้นที่ประสบภัยพิบัติในสุลาเวสีตอนกลางของอินโดนีเซีย (A Policy Implementation on Permanent Housing Project in Disaster-Affected Areas in Central Sulawesi, Indonesia.) รหัสโครงการวิจัย EC 20145-23 เพื่อขอรับการพิจารณาจริยธรรมการวิจัยในมนุษย์จากคณะกรรมการจริยธรรมการวิจัยในมนุษย์มหาวิทยาลัยแม่ฟ้าหลวง เมื่อวันที่ ๑๖ กันยายน ๒๕๖๓ นั้น

บัดนี้ คณะกรรมการจริยธรรมการวิจัยในมนุษย์ ได้พิจารณาโครงร่างการวิจัยดังกล่าวเป็นที่เรียบร้อยแล้ว ซึ่งเป็นโครงการวิจัยประเภท Exemption ทั้งนี้ ผู้วิจัย/ผู้ประสานงานโครงการวิจัย สามารถติดต่อรับหนังสือยกเว้นการพิจารณาด้านจริยธรรมการวิจัยหรือท่านสามารถติดต่อสอบถาม หรือขอคำปรึกษาได้จากผู้ประสานงาน นางสาวศิรินทร์ทิพย์ อรินต๊ะทราย สำนักงานคณะกรรมการจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยแม่ฟ้าหลวง อาคารบริการวิชาการ (AS) ชั้น ๔ หมายเลขโทรศัพท์ ๐๕๓ ๙๑๗-๑๗๑

จึงเรียนมาเพื่อโปรดดำเนินการ

(นายกานต์กุญช์ บำรุงชาติ)
หัวหน้าส่วนบริหารงานวิจัย
สถาบันวิจัยและนวัตกรรมมหาวิทยาลัยแม่ฟ้าหลวง

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หนังสือยกเว้นการพิจารณาด้านจริยธรรมการวิจัย

COE: 154/2020 รหัสโครงการวิจัย: EC 20145-23

ชื่อโครงการวิจัย : การดำเนินนโยบายเกี่ยวกับโครงการที่อยู่อาศัยถาวรในพื้นที่ประสบภัยพิบัติในสุลาเวสีตอนกลางของอินโดนีเซีย

ชื่อผู้วิจัยหลัก: Mr.Bimo Satryo Wibowo

สำนักวิชา: นวัตกรรมสังคม

คณะกรรมการจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยแม่ฟ้าหลวง พิจารณาโครงร่างการวิจัย โดยยึด แนวทางจริยธรรมสากล ได้แก่ ปฏิญญาเฮลซิงกิ (Declaration of Helsinki) รายงานเบลมองต์ (Belmont Report) แนวทางจริยธรรมสากลสำหรับการวิจัยในมนุษย์ขององค์การสากลด้านวิทยาศาสตร์การแพทย์ (CIOMS) และแนวทางการปฏิบัติการวิจัยที่ดี (ICH-GCP) ได้พิจารณาแล้วเห็นว่า โครงการวิจัยดังกล่าวข้างต้น เข้าข่ายยกเว้นการพิจารณาด้านจริยธรรมการวิจัย

วันที่รับรองยกเว้นการพิจารณาด้านจริยธรรมการวิจัย: 17 กันยายน 2563

ลงนาม .....

(รองศาสตราจารย์ พลตรีหญิง แพทย์หญิง แสงแข ชำนาญวนกิจ)
ประธานคณะกรรมการจริยธรรมการวิจัยในมนุษย์ มหาวิทยาลัยแม่ฟ้าหลวง

หมายเหตุ

- ไม่ต้องส่งรายงานความก้าวหน้าของการวิจัย
- ไม่ต้องส่งรายงานสรุปผลการวิจัย เมื่อการวิจัยเสร็จสิ้น

APPENDIX B

INTERVIEW GUIDELINE

A. Policy Implementation approach

1. In regard to the establishment of Disaster Management Task Force for Central Sulawesi:
    a. What is the background of the establishment?
    b. What is the legal basis of the establishment?
    c. What is the purpose of the establishment?
    d. When is the task force established?
    e. How long does the task force will serve?
    f. How is the member being elected?
    g. What is the duty and responsibility of the team?
    h. To whom the team will report to?
    i. Who supervises the team?
    j. How is the team evaluated?
2. The election procedure for the head of the Disaster Management Task Force for central Sulawesi (for point a and b, kindly choose one which applicable):
    a. Through an open election:
        - How many candidates was involved in the election?
        - How long did the process?
        - What were the steps of the election?
    b. Through direct appointment
        - Who issued the appointment letter?
        - Who recommend you to be the head of the task force?
    c. In your opinion, what makes you got the position?
    d. In your opinion, is the position politically bias?
    e. How long will you serve in this position?
3. Concerning the post-disaster management in Central Sulawesi:

a. The duties and responsibilities of the Central Sulawesi Disaster Management Task Force are derived from the main guidelines regarding post-disaster management. Which guidelines were used by the team?
b. Who made the guideline?
c. What are the objectives of the implemented guidelines for post-disaster management in Central Sulawesi?
d. Are there any procedures that must be followed in implementing these guidelines in Central Sulawesi? For example, to build houses for permanent housing in order to solve the problem of damaged community houses, the team had to collaborate with the local government regarding data collection. However, in determining the specifications of the buildings to be built, it is the authority of the task force team.
e. Who are the parties involved in implementing these guidelines in Central Sulawesi other than the task force team (but still linked to the task force team, for example in the coordination line or other hierarchy), and what are their duties?
f. What about the resources used by the team and related parties to carry out the guidelines for these rules, and how are they distributed among each party? For example, in terms of operational budgets, the team uses funds from National Disaster Management Agency, while to implement the entire program uses funds from local governments which are then supported by the central government.
g. What are the challenges that you and your team face when carrying out their duties and authority?
h. What factors influence the emergence of these challenges?
i. How do you and your team overcome these challenges?
j. What factors should be improved in the future to prevent these unwanted things from happening?

B. Build Back Better

1. Are the guidelines used by the Central Sulawesi Disaster Management Task Force team as well as in the implementation of the team's duties and authority include / use the concept of building back better?

2. If so, which part in the reconstruction and rehabilitation plan in Central Sulawesi that use the concept of building back better?
3. How is the concept of building back better translated into the post-earthquake and tsunami reconstruction and rehabilitation project in Central Sulawesi?
4. Does the implementation of post-disaster reconstruction and rehabilitation in Central Sulawesi involve the community? If so, to what extent can the community be involved?

C. Disaster Resilience

1. Do you know the concept of disaster resilience? To what extent do you understand the concept of disaster resilience?
2. Is there a concept of disaster resilience in the disaster management system in Indonesia?
3. As far as you know, do the Indonesian people already know about this concept?
4. Does the implementation of disaster management reconstruction and rehabilitation in Central Sulawesi include the concept of disaster resilience?
5. To what extent has this concept been translated into the reconstruction and rehabilitation of disaster management in Central Sulawesi?
6. Do you think that the concept of disaster resilience used in Indonesia, at least in disaster management in Central Sulawesi during the reconstruction and rehabilitation period, is sufficient for the government and the community?
7. In your opinion, what are the other factors that need to be improved to achieve better disaster resilience in Indonesia?

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2016 Bachelor of Social and Political Science Universitas Muhammadiyah Yogyakarta, Indonesia

WORK EXPERIENCES

2020 – Present Business Development Officer at PT Kennlines Capital, Jakarta, Indonesia

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PUBLICATIONS

Wibowo, Bimo S. (2020, November). Global cybersecurity measure in international security: A case study of Russia's independent network in 2014-2018. In Rosyadi, Dr. Slamet, Hussin, Prof. Dr. Rozasman & Primoljinda, Assoc. Prof. Dr. Thanawat (Eds.), *Navigating Global Society in the Disruptive Era: The First International Conference on Political, Social and Humanities Sciences*

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