

Aid Allocation Management for Disaster Victims at Palu City, Celebes Island, Indonesia (The 2018 Earthquake and Tsunami)

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Natural disaster will never be predictable in terms of when or where they may occur. Thus, whenever a disaster does occur, it will bring massive destruction and unavoidable casualties. The victims will experience loss, sadness and trauma. They will require aid, especially from the government, distributed to support them. To distribute the aid correctly, we need to know some information, such as their gender, origin, house destruction, if they have experienced the death of a relative, or an injured family member. Additional information includes whether they were hit by a tsunami, their belief in God during this hard time, the presence of friends to share with, and whether they have received government aid or not. This research aims to describe the condition of the 2018 Palu earthquake victims. Knowledge of such information will assist in the correct distribution of aid. This research uses the data of at least 128 victims aged 20 years old and above, located in refugee camps in Palu city. This data was taken using purposive sampling; specifically, a questionnaire. The result is description of Palu earthquake victims based on the variables mentioned earlier, and suggestions in the form of management of aid distribution to the 2018 Palu earthquake victims. The result of this research aims to give help to both central and local government to distribute aid in asystematic, directed and comprehensive manner.

Key words: *Demographic condition, earthquake, government aid, management.*

Introduction

Indonesia is the biggest archipelago country in the world and located inside of the so called the 'Ring of Fire', an area spread from Java through to Sumatra. The 'Ring of Fire' is an area that often encounters earthquakes and volcanic eruptions that bring very detrimental disasters. The area is horseshoe shaped and covers 40.000 kilometers along the "pacific rim" (Hinga, 2015). Almost 80% of earthquakes occur within the 'Ring of Fire' area.

Natural disaster, specifically earthquakes, has a very detrimental impact (Choudhury et al., 2016), (Guha-Sapir and Vos, 2011) and is often followed by a secondary disaster, such as a tsunami, the destruction of houses, the wounding or even death of victims, fears, worries and long-term trauma (Bryant, 2017). This is exactly what happened. The 7.4 M earthquake hit Palu city on Sulawesi island on Friday September 28, 2018, 18:02 local time (BNPB, 2018), (European Commission, 2018). The earthquake was followed by a tsunami (Griffin, 2014) which hit along west coast of Sulawesi island and killed almost 2,113 people and caused a financial loss of at least 978.445 USD (WHO, 2018).

The condition of Palu city and the population after the strike was apprehensive and required immediate aid. They needed staple food and drinking water, clothing, blankets, baby food, lighting, shelter, medicine, etc. (BNPB, 2018). Most of Palu's residents suffered severe trauma because of this disaster. They lost their houses, family members, and were hoping for external aid to assist them with their burdens. The form of the aid needed was both physical or psychological.

The government had tried to distribute visible aid, but the effectiveness of such action has not been proven right to have reached those who are in need. It is unavoidable that the aid distributed to the victims were not always in the form of items or services most needed. When this happens, funds are wasted, whilst the remaining needs are still neglected. Therefore, there is a need for the government to evaluate the sufficiency of their aid distribution. For this evaluation, input from the victims are required to understand their need and the role of the aid given by the government. One possible way to get input from said victims is by describing their condition, so that the form and the means of aid distribution can reach the proper persons in a proper way. By doing so, the aid distribution management may be done better.

This research tries to describe the victims, including their demographic, their needs, and their responses regarding the government aid that was or was not distributed to them. Input from the victims will provide valuable information for the government to evaluate their aid distribution management. Using the available description data, the government will be able to see whether aid they distributed reached their targeted people. Hence the government will

have guidance about future distribution of aid to disaster victims. This is the aim of this research.

Research Purpose

The purpose of this research is to create descriptions of the demographic of the victims of the 2018 Palu earthquake; the description concerns their needs and the role of the government aid given.

Literature Review

The measures of impact caused by a natural disaster are different among the victims. Rianti and Franky in their study (2019) found the fact that 2018 Palu earthquake has had an impacted of differing traumatic levels amongst men and women. The government-sourced aid were more impactful with men in comparison to women. The devastation of their houses had a greater impact and higher burden on women. Therefore, gender and house devastation factors need to be described well for each percentage, to help the distribution of aid in running fast and accurately.

Apart from these factors, victims who are Palu residents experienced more sadness (Shultz et al., 2013), (Goldmann and Galea, 2014) in comparison to those who were not. Those Palu residents were most likely to have had a permanent residence and family in Palu. They suffered more than those who were not Palu residents. Wounded victims and even fatal casualties were also predominately Palu residents, therefore they suffered even further.

It was even more devastating when the tsunami wave hit the victims of the earlier earthquake (Gerrard and Petley, 2013). The earthquake and tsunami caused fear and trauma for an extended period of time. In this matter, psychological help became necessary. Even more so in cases where children had lost a parent. The presence of someone to share with was also needed to help them through-out the difficulties post disaster. The strength of those victims facing this kind of disaster largely depended on their faith in God. Those who has faith in God were steadfast because they believed they had a Helping Hand. The severe earthquake disaster caused victims to lose their hope, hit by fear, a desire to leave Palu and many more. These factors need special attention from the government in distributing their aid. It would be better if all of these needs were well looked after by the government. The government may employ this research to prepare ready-to-use plans when disaster happens in the future.

Research Variables

Based on the above mentioned arguments, variables that will be included in this research are:

(a) gender: male or female. In the distribution aid, there is a need to pay attention to the gender of the victims because needs differ between men and women. (b) Origin (Palu or else) of the victim's place of residence when the disaster happened. This factor needs to be examined because if they were a Palu resident, they were more likely to need detail and greater aid compared to those who weren't. (c) Their physical presence at the site of the earthquake. This factor needs to be examined because victims who were on the site of the earthquake experienced greater fear and trauma, compared to those who were not on the site during the earthquake. This is where psychological aid is needed. (d) Experience of severe house damage. This factor needs to be examined because devastated houses require rebuilding. (e) Wounding of family members, to determine the need for medical treatment. This factor needs to be examined because if there were wounded family members, there would also be medical personnel needed for medical treatment. (f) Death of a family member. The death of a family member(s) will bring sadness and loss. These victims need reassurance. (g) Physical experience of the tsunami, to ascertain whether, when the disaster happened they were hit by the tsunami or not. This factor needs to be noted because those who were hit by the tsunami would experience more fear and trauma. They require a psychotherapist and a counsellor to talk to. (h) Proximity of friends to share burdens with. This factor needs to be examined because if they didn't have friend to share with, they would require even more aid materially and psychologically. (i) Faith in God (high or low), ascertaining the level of faith of the victims. This factor needs to be examined because those victims who are low in faith in God would suffer more in their experience of the disaster. There would be more assistance for those with some ecclesiastic on their side. (j) Desire to leave Palu. This factor needs to be examined because said desire would pose a challenge to the government (k) Loss of hope after their experience of disaster. This factor needs to be examined as, if there were lots of victims who lost hope, spiritual and psychological aid is needed. (l) the reception of government sourced aid. This factor need to be noted so that the government may know whether their aid has distributed properly. Recording of such facts needs to see the role of government sourced aid to those victims in need. (m) the reception of society sourced aid. This factor needs to be examined because there were other forms of aid received that were not government sourced. If this is true, then the government may reallocate the aid to other victims. (n) Fear levels (high or low), measured using the Likert scale 1-5. Victims with high levels of fear would require immediate and special help, especially spiritually. (o) Trauma levels (high or low), measured using Likert scale 1-5. Trauma effects can be experienced long term and affect the life and psychological health of the victim. Therefore trauma victims of the earthquake and tsunami were examined also.

Method

Population in this research are those who are victims of the 2018 Palu earthquake. Samples taken were 128 victims, aged 20 years old and above located in the refugee camp in Palu city. Samples were taken using a purposive sampling method, aligned with the aim of this research, one month after the earthquake occurred. Data was gathered by distributing a questionnaire, and then analysed using a frequency table and a contingency table.

Results and Discussion

Based on the facts gathered, at least 55.6% of the victims were men, and the other 44.4% were women,. 84.3% of the respondents originated from Palu and 15.7% did not. When the earthquake occurred, 95.3% of them were on the site, whilst 4.7% were not. Among the respondents, 13.6% were also hit by the tsunami and the other 86.4% were not. Among the respondents, 86.7% have had severe house devastations, whilst 13.3% have not, and at least 41.6% have had family members badly injured, while and the rest 58.4% did not. 41.6% of the respondents had a casualty in their family and the other 58.4% did not. The majority (96.1%) of the respondents had friends to share with, whilst 3.9% did not. Also, 88.9% of the respondents had no desire to leave Palu, whilst 11.1% did wish to leave Palu. 81.1% were not losing hope, whilst 18.9% were; at least 94.5% of respondents had faith in God, whilst 5.5% did not. Of the respondents, as many as 81.1% in majority did not receive government-sourced aid, which the other 18.9% did receive. As many as 82.5% did not receive society-sourced aid, whilst 17.5% did. As many as 2.3% of the respondents had low levels of fear, 11.7% reported medium fear levels, and 86% had a high levels. At least 87.9% had a high level of trauma, whilst 12.1% experienced low levels of trauma.

It has been clearly shown that government-sourced aid has given significant difference both to men and women, to those who were on site during the earthquake and those who weren't, to those who have received community-sourced aid, and to those who have a high level of trauma. The details are as follows:

- a. Impact of government-sourced aid regarding gender
26.1% of respondents are women and 73.9% are men.
- b. Impact of government-sourced aid regarding their located on site when the earthquake occurred
12.5% of respondents who received government-sourced aid were not located on site, whilst 87.5% of them were when the earthquake happened.
- c. Government-sourced aid versus community-sourced aid
30.4% of respondents who received government-sourced aid did not receive community-sourced aid, whilst 69.6% of them received community-sourced aid.
- d. Government-sourced aid regarding trauma levels

26.3% of respondents who received the aid had low levels of trauma whilst 73.7% had high levels of trauma.

Based on the findings and aid allocation data from the government, the following points may come into consideration.

- a. The government aid was mostly given to men - as much as 73.7% of the respondents - and this is so far is correct. For their next step, the government may consider building a few storage buildings or temporary warehouses to make aid allocation for those victims more efficient and precise.
- b. Government have allocated the majority of aid to the victims who are residents of Palu city – as much as 87.5% of the respondents - and so far this is correct. For their next step, the government may give assistance to local residents to build permanent or temporary residences.
- c. Government have allocated the majority of aid to victims who also have received aid sourced from the society - as much as 69.9%. This fact should be a consideration for the government. For their next step, the government can create policy for community-sourced aid, gathered and distributed by the government through related agencies. This is recommended so that aid may be systematically distributed, with consideration given to equality of distributions and documentation.
- d. Government have allocated aid mostly to victims with high levels of trauma – as much as 73.7% - which is in this case is correct. The government may help to develop public facilities and infrastructures needed by local residents to strengthen them in everyday life.

In the results from the findings above, one noteworthy fact is the Palu earthquake's disregard for the gender factor. Male and female proportions are equal. It is clear that the majority of victims were of the Palu population and were on site when the earthquake happened, despite the fact that some respondents experienced the earthquake only and were not hit by the tsunami.

Among all of the victims of the Palu earthquake, the majority of respondents experienced severe destruction of their houses. Rianti and Franky (2019) stated in their research that this circumstance triggered a high level of trauma (Bisson et al., 2015) especially to the women. The devastation of homes urged the government to supply funds to help them to recover and rebuild their ruined houses. Other parties except the government involved in the recovery processes need to cover the handling and repair of severely damaged houses. Aid distribution management is required to help all victims to start rebuilding their houses.

Other than severely damaged houses, 58.4% of the respondents had wounded family relatives and 41.6% had a family member killed. Accompanying those families would cause certain pressure and grievances (Bryant, 2017), (Bisson et al., 2015). During this time field medical personnel and medications were desperately needed. The government and other parties

distributing aid to victims had to be ready with medical aid, and blood, as well as doctors and nurses. In September of 2018, the day of the Palu earthquake, at least 30% to 40% of medical personnel (doctors and nurses) and also a very less in numbers to support the treatment to those wounded victims (WHO, 2018).

There were at least 2.113 casualties according to the report (Tempo.co, 2018). Children who were suddenly orphaned needed certain handling and protection provided by the government. They required significant care, with physical and psychological needs to be supported. Not limited to children, casualties of the disaster were a source of deep suffering to the relatives left behind. Natural disasters, like in Palu, often cause the death of more than one family member, causing significant grief and trauma for the remaining family. Such cases require help and reassurance from others. Thus, the government and related agencies were urged to prepare and send assistance to them. During the Palu earthquake strike, luckily, at least 96.1% of the respondents had partners or friends to share with, reducing the need for accompaniment.

Data gathered has shown a positivity in the victims, standing strong in the face of this disaster. The majority of respondents stated that they didn't experience loss of hope. The majority of them felt strengthened by God, and didn't have desire to leave Palu, despite reporting high level of fear. These circumstances can help government and related agencies in management, distributing aid to all victims in Palu. Unfortunately, most respondents stated that they didn't receive aid both from government and society. This points out that the government's aid allocation management needs improvement.

The data has shown that government aid was received mostly by men. According to Rianti and Franky's recent studies (2019), most men require more aid from the government in comparison to women. From an aid allocation management point of view, this distribution data is thus on track. It has also shown that majority of aid was given to Palu residents – as much as 87.5%. This is understandably due to their experience of severe loss in comparison with those from outside Palu. In this case, the allocation given to Palu's population is also fitting.

The data gathered has shown that government aid was given in majority to victims that had already received aid from the society – around 69.6% of the respondents. This figure should stand as a correction to the government, redirecting their aid allocation to those who are really in need. The data has also shown that government aid was mostly given to those who with high levels of trauma - as much as 73.7% of the respondents. During aid distribution, it is sure that the government could not know the trauma levels of victims. In managing aid distribution to the earthquake victims, the government needs to anticipate the situation for those who experience great loss, and thus a high level of trauma. This aid is very helpful.

Conclusion & Suggestions

1. This study summarises that to fix government aid distribution management, especially to earthquake victims, the aid should be prioritized to men, who are Palu residents with houses severely damaged, and to those who have not received any aid from any parties or societies.
2. Aid allocation management of the government has reached the right target, namely to men, Palu residents, and those who experienced a high levels of trauma.
3. A misleading aid allocation management of the government was spotted in the because distribution of aid to those victims who had already received aid from societies.
4. A positive aspect was seen in that the majority of the victims of the Palu earthquake didn't lose hope and retained faith in God. Additionally, they didn't have a desire to leave Palu.

To maximize the management function related to aid allocation for victims, especially those in Palu, and other islands, who have potential to experience the same disaster, the author suggest the following points:

1. The government, through the National Board of Disaster Management (BNPB), becomes the PIC of the implementation of disaster management nation-wide, coordinating with the Local Board of Disaster Management (BPBD), especially those in relation to community-sourced aid allocation.
2. The government appoints BPBD as a legal agency which can receive, distribute, and control all aid allocation both from the government and the community.
3. All aid from the societies should be managed by BPBD at a province, district and city level. This procedure should be applied so that aid allocation management will be right on target, fair and systematic.



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