Can Transformational Leadership Enhancing Performance Effectively in Forest Fires Disaster Management?
(Case in Wonosobo Regency, Central Java, Indonesia)

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Abstract. Bass states that transformational leadership successfully applies in the private sector. However, this research elaborates that transformational leaders are effective in the public sector particularly in the emergency situation. A Head of the Local Disaster Management Agency in Wonosobo Regency shows that he was able to fight the forest fires that occurred in the regency through embracing transformational leadership. Under his leadership, the Agency Handling Disaster Management in Wonosobo Regency, displays efforts and willingness to overcome forest fires promptly within 2019. This qualitative research examines the role of a transformational leader in disaster management and how the individual guides the staff and the volunteers as well as optimizes existing technology to work efficiently towards problem-solving to perform as a team through team processes. The results discovered that his role through his presence was to be perceived when the forest fires occurred.

Keywords: Disaster Management · Transformational Leadership · Team Performance

1 Introduction

Indonesia is a forest fires disaster prone country. Tropical forest along the country, land clearing habit, and humidity during dry season cause the forest fires and have destroyed the natural habitat of flora and fauna in Indonesia. In Java Island, the number of forest fires are not as massive as in Sumatra or Borneo Island but in fact several forest fires have happened and caused natural damages. In 2019, forest fires occurred on Java Island. The fires burned forest located in Mount Sumbing and Sindoro Wonosobo Regency. Recalling that 40 percent of its territory is forest, Wonosobo Regency is vulnerable to forest fires.

The forest fires located in Mount Sumbing and Sindoro occurred in two different times. On August 8th, 2019, the national forest surrounding Mount Sumbing in Wonosobo Regency burned. Reportedly started at 05.30 a.m., the fires were successfully ended at 01.30 a.m. of the following day. Unfortunately, another forest fire in Wonosobo Regency occurred in the following month in the forest surrounding Mount Sindoro,
September 23rd 2019. However, both forest fires were successfully extinguished in less than 24 h.

The agency managing the disaster affairs in Wonosobo Regency called *Badan Penanggulangan Bencana Daerah* (BPBD) implemented an effective action to overcome the forest fires. Forest fires in other areas require extended periods to stop the fires. Sutopo, the former head of information data and public relations in the national agency managing disaster affairs namely *Badan Nasional Penanggulangan Bencana* (BNPB), explained that even though the intergovernmental actors had collaborated to fight the forest fires, the fires did not rapidly end.

The BPBD of Wonosobo Regency is not a big agency. This agency is not supported by adequate equipment and human resources. There are only 45 people working in the BPBD with various backgrounds and job descriptions [1]. The equipment is also limited since this agency is working in a territory which is categorized as high risk of disaster (Table 1) [1].

However, extinguishing forest fires is a matter among the local government. The existence of Disaster Management Law (DML) No. 24/2007 and Local Government Law (LGL) No. 23/2014 affect vague interpretation among the local government. As stated in the DML that every level government is authorized to manage disaster mitigation including forest fires disaster. However, the regencies and cities based on the LGL responsible to manage the fires disaster excluding forest fires because central and provincial governments are the actors who have authorization on forest. Therefore, some regencies and cities are reluctant to combat the forest fires in their territory because they perceive that forest fires are not their responsibility.

Local governments are indeed responsible for disasters occurring in their territory based on the Sendai Framework for Disaster Risk Reduction 2015–2030 (Sendai Framework). Every level of government, especially the upper levels, has an essential role that needs commitment, goodwill, knowledge, experience, and resources from every level of government [2]. In line with Sendai Framework, prior researches also confirm that local government is playing a vital role in disaster [3–6]. They believe that local governments generally understand the needs of the people that they serve better than other entities.

### Table 1. Equipment of BPBD.

<table>
<thead>
<tr>
<th>No</th>
<th>Equipment</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Evacuation car</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Fires car/truck</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>Operating car</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>Rescue car</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Trail bike</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>Pick up car</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>Water tanker truck</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>Various tents</td>
<td>17</td>
</tr>
</tbody>
</table>
Noting from the fact, the Head of BPBD in Wonosobo Regency namely Zulfa embraces the staff in BPBD to perform optimally on forest fires extinguishing when the fires occurred in 2019. With the fact that other regencies and cities are reluctant to be involved in the forest fires and limited resources, his leadership persuades the team to work effectively. Thus, he is considered a transformational leader.

A disaster management agency ideally needs a leader who perceives a transformational leader as a leader that generates transcendental energy which essentially drives improvements in emergency services systems [7]. The work environment provoked by a transformational leader drives an optimal teamwork for the followers to achieve the institution’s goal [8]. The engagement between one or more persons to another, leaders and followers, allows discussion of shared vision and goals for an organization or unit. Besides, that engagement challenges them to be innovative problem solvers and develop followers’ leadership capacity through coaching, mentoring, and providing both challenge and support [9].

Previous studies in transformational leaders effectively show high significance to overcome the emergency, especially disaster. Bligh, the Premier of Queensland Australia, provoked her followers to perform beyond their ordinary when the flood occurred in 2011 [10]. A leader of the social community in Wonorejo Musi Banyuasin South Sumatera Indonesia succeed in mobilizing the members to play a role in fire control because the leader’s leadership assigned a transformational style with charismatic characters, inspires members, encourages intellectuality, and provides individual attention [11]. A hospital leader in Qingchuan Wenchuan China, Mr. Hu, motivated his subordinates to help and rescue more than 3,000 people in 20 days after the earthquake through his self-sacrificial behavior [12].

Those proven transformational leaders functionally work in a disaster. However, the role of transformational leaders in the public administration area, especially in the regency level, is not yet highlighted. The significance of this research is to fill the gap in the necessity of transformational leaders in public administration, particularly at the regency level. Transformational leadership at the lowest level of government level is also significant in enforcing good government service in society.

2 Research Methodology

2.1 Research Method

This research adopted a qualitative method that emphasizes words in collecting and analyzing data [13]. The researcher relies on the primary and secondary data, which will be compiled from documents and interviews. The research questions of this study needed explanatory deal with operational link deeding to be traced over time, rather than mere frequencies or incidence. The transformational leadership within forest fires disaster management, which leads to the interference of Wonosobo Regency in the forest fires disaster management, was a contemporary or recent event. Therefore, the researcher would not examine the entirely historical phenomenon [14].

To gain the information from primary data, the researcher prepared some Semi-Structured In-depth Interviews, which are divided into two purposes: to examine the four characteristics of transformational leadership and to elaborate on how transformational
leadership leads the team performance to have a willingness to be involved in forest fires fighting. For the first purpose, the researcher prepared specific questions to initiate the discussion during the interview: (1) Do you know the Head of BPBD of Wonosobo Regency? How long have you known him? (2) As long as you know him, does he show the characteristics of idealism? (3) Does he always give inspirational motivation? (4) Does he always push intellectual stimulation? (5) Does he know you personally?

To analyze the second purpose, the researcher arranged three specific questions to gain information about why they interfered in the forest fire fighting: (1) In the forest fires that happened in 2019, where was the Head of BPBD? (2) Did he give directions on forest fires fighting? Why were you involved in the forest fire fighting? (3) How do you describe the forest fires fighting in detail?

The research performed additional interviews with two informants from the Directorate of Disaster Mitigation and Fires Ministry of Home Affairs to elaborate more on how the Central Government reacts to forest fires disaster management, especially how the laws determine the role of regency and city roles in forest fires. The following questions to both informants are as follows: (1) How do the laws regulate forest fires? (2) Some regencies and cities are reluctant to involve themselves in forest fire fighting. What is your opinion about that? (3) What is the role of BPBD in forest fire fighting? (3) What is/are the ideal criterion/criteria to be appointed as Head of BPBD in BPBD? (4) Are there any factors that should be repaired or revised in the laws that relate to forest fires?

2.2 The Informants

The informants for individual interviews were chosen using judgment or purposive sampling. There were 22 informants interviewed (Table 2). The informants were coded into several groups based on the organization and the guided questions asked during the interviews. Group A consists of informants who came from internal BPBD. The informants grouped in B were related institutions with BPBD, BAPPEDA, BKD, and affiliated volunteers. Group C consisted of informants from the Ministry of Home Affairs to gather information about disaster management affairs.

<table>
<thead>
<tr>
<th>No</th>
<th>Code of informant</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A-1 to A-17</td>
<td>BPBD</td>
</tr>
<tr>
<td>2</td>
<td>B-1</td>
<td>BAPPEDA</td>
</tr>
<tr>
<td>3</td>
<td>B-2</td>
<td>BKD</td>
</tr>
<tr>
<td>4</td>
<td>B-3</td>
<td>Tambi village volunteer</td>
</tr>
<tr>
<td>5</td>
<td>C-1 to C-2</td>
<td>Ministry of home affairs</td>
</tr>
</tbody>
</table>
3 Result

3.1 Transformational Leader in BPBD of Wonosobo Regency

Based on insights gained through documents, research and in-depth interviews, it has been inferred that it was not easy for Zulfa to take the challenge to lead BPBD Wonosobo Regency. Besides the disaster frequency happens often, the human resources and infrastructures are lacking. Appointed in a similar year when the forest fires occurred in 2019, he encouraged his followers to fight the forest fires.

Four characteristics shown during his leadership elaborations from the interview explain why the followers passionately work at BPBD. The descriptive data will display based on the code provided in Table 2.

Charisma/Idealized Influence. Describing the characteristics that show idealism as a leader, the informants from Group A and B agree that Zulfa is responsive, firm, smart and religious. The “responsive” character was described by those informants through several words- easy to reach, reachable, fast, 24 h standby, and also the word responsive itself- which every informant testified during the interview.

Firm characteristic, which also can be indicated as assertive toward the rule, was the second character of Zulfa that the informants frequently described. Group A illustrated that Zulfa was unwilling to distribute the logistics without any request letter from related institutions. His assertiveness also existed on the standard operating procedure of safety implementation during the disaster rescue. The informant Group A and the affiliated volunteer from Group B emphasized that Zulfa always emphasized the safety of each staff and affiliated volunteer involved in disaster rescuing with his sentence, “We come to help, not the one who is being helped.”

The education background of Zulfa is related to the smart character that he has (informants, A-7, A-9, B-1, and B-2). He graduated from a government-affiliated school called Sekolah Tinggi Pemerintahan Dalam Negeri or Home affairs Governance School, which was familiar with tactical leadership.

Several informants define their leader as a religious person. Three informants (A-7, A-9, and A-140) from BPBD answered that Zulfa is always religious, shown in his attitude. The statement of religiosity was strengthened by informant B-2, the head of BKD, a particular agency managing human resources in Wonosobo Regency. The informant B-2 said one of the considerations that put Zulfa as the highest leader in an agency was because he is a religious man.

Inspiration. The ability to deliver the value of the organization is important to inspire the followers. A leader strongly encouraged their followers through interactive communication [15]. Engaging the emotions between a leader and his followers, Zulfa often delivers his commitment and value in the formal meeting or casual conversation with his staff and affiliated volunteers (informants A-1 to A-16).

In addition, he emphasizes that when an emergency occurs, the state or government must be present, including when there are forest fires nearby. Whoever is the owner of its affair, forest fires are a kind of disaster that every stakeholder should involve. Zulfa stated that, “We work in an institution that puts safety as a priority. Our help is something that society waits for, which means that the government’s presence is eagerly awaited. So do not be lingering, do not be long-winded!”.
Moreover, Zulfa behaves like the parent of the staff which is strengthened by the informants A-7, A-11, A-13, A-15, and A-16. He believes that a leader should be a parent in their office; therefore, the staff respects the leader. He emphasizes a phrase that is taught in society that “Father and Mother are the parents in the family, Teachers are the parents in the school, and Office’s leaders are the parents in the offices.”

**Intellectual Stimulation.** The transformation leader always persuades creativity [16]. The leadership of Zulfa is not a “one-man show” leadership that entirely focuses on him. Instead, he stimulates his staff to solve the problem emerging from their daily duties. Elaborating from the interviews, he encourages his staff by two conditions: emergency and non-emergency situations.

**Emergency.** When an incident notification or report comes through phone, messenger application, message service, or handy-talky which is 24 h available, a special team called fast response team or *tim reaksi cepat* (abbreviated as TRC) will respond immediately before 15 min. The team will deliver the facts in the disaster scene to a center called the operation control center or *Pusat Pengendalian Operasi* (abbreviated as Pusdalops). The facts will be analyzed fast by the center and the center will decide the following steps: deploying a group of personnel or volunteers, delivering logistics amounts, asking for help from other stakeholders, etc.

The processes need trust between one team and another, and Zulfa entrusts them with the necessary action to overcome the situation. Zulfa will technically come when the necessary action is out of their capacities, for example, asking for advanced equipment from other vertical institutions, asking for permission for inter-regencies, etc.

**Non-emergency.** Emergency needs a fast response while non-emergency is more programmed. The non-emergency policy relates to program or operational activities within BPBD. Four sections, including the secretariat affair, examine their necessities or do, commonly within a year following the budgetary system. The examination is entirely bottom-up, while Zulfa only shares a general vision of his leadership. Hence, his shared vision will stimulate the creativity of his staff and promote the analysis capability to interpret the vision.

Currently, BPBD is preparing disaster mapping data by optimizing spatial data to simplify their work. It was because they wanted to improve their service to the Wonosobo society with the technology. They expect that the prevention action will be better and minimize the risk in line with a mindset that Zulfa shares in the meetings that prevent and mitigate the risk of the disaster and think about how to repair it.

**Individual Consideration.** Digging from the informants, especially his staff, illustrates that Zulfa puts several measurements to finally place someone in the right place because almost all personnel in BPBD are graduated from high school, which only rely on physical and technical abilities. There are two types of personnel that support BPBD. The civil servant is the first type of personnel who recruits based on a particular system that involves education, academic capability, national insight, and personal characteristics.

However, during his period of leadership, Zulfa strongly knew the potential of its civil servants placed in BPBD. The informant A-3, who graduates from geography faculty, pushes to create beyond the ordinary program in BPBD because she is an advanced young generation who knows information technology and spatial application. She works
intersectionality within BPBD while she is legally under the Prevention and Preparedness Section. The informant A-8, a government science bachelor, was put in the secretariat to manage the data and communicate with other agencies within Wonosobo Regency.

However, the number of civil servants placed in BPBD is only 23, including the Head of BPBD and head of section, which are not enough to support the organization’s necessities. Thus, non-civil servants are recruited to help the civil servants.

The recruited non-civil servant has a pattern to be placed in the fixed team. They will start with a janitor, who has the responsibility to clean and organize the office. Being a member of Pusdalops is the second stage after being a janitor. However, flexibility is necessary when Pusdalops need additional personnel because they will take the janitor to have functioned as a member of Pusdalops. Finally, when their experience is already enough, they will be placed in the TRC. In addition, TRC is an advanced technical team because its members should know about the condition of the place where the disaster happened. It is also the first informant who informs all the related situations that occurred in the location to decide the following action.

However, the members of Pusdalops do not always lack capacity. Informant A-13, a non-civil servant who also has many experiences in rescuing places in Pusdalops. Through the interviews, Zulfa intensely perceives that Informant A-13 is a skillful person. Therefore, he trusts Informant A-13 and is an important person in the Pusdalops, although Informant A-13 is not a civil servant. Zulfa realizes that The Informant A-13s’ skill strengthens the Pusdalops and BPBD of Wonosobo Regency, considering that The Informant A-13 networking within the affiliated volunteer is vital.

Description of the Forest Fires. The fires around Mount Sindoro and Sumbing were suspected to be due to human negligence, but the source is not known. The fire then spread around the mountain, and coincidentally the dry season and windy, which affected the fire spread rapidly. The BPBD coordinated with other agencies and institutions in order to overcome the forest fires immediately. In the field, coordination between agencies was also carried out quickly to decide the tactical following steps.

The locations of the forest fires were located in Perhutanis’ property, a state-owned company that has ownership of production rights. However, fire reports were reported by volunteers who live near forest fires. After TRC conducts an inspection, a predetermined team participates as has been assigned by Pusdalops. At that time, all the informants acknowledged that all went to the field, including the informant whose daily job was as BPBD treasurer.

The fires on September 23rd, 2019, which was the second forest fire, helicopters were successfully brought in to help the forest fire fighting. The helicopter assistance came from the BPBD of Central Java Province. However, it did not succeed in speeding up the extinguishing as the helicopter’s propellers’ effect provoked wind motion. Nevertheless, although it did not successfully overcome the forest fires, Zulfa effectively took advantage of his networking to fasten the performance.

Obscurities in Laws of Forest Fires Disaster Management. The two informants from the Directorate of Disaster Mitigation and Fires Ministry of Home affair emphasize that the unclear authority distribution affected by DML and LGL creates another problem. The Regency and Cities cannot formulate the budget over the forest fire fighting because
it is not part of the authority. Therefore, the reluctant action over the forest fires cannot be blamed.

However, the Ministry of Home Affairs explained that BPBD is supposed to be the coordinator of disaster management within its territory, considering that the human resources of each BPBD in every regency and city are limited. As a coordinator, BPBD may ask other institutions such as the local agency for health affairs, the local agency for a social affair, regional army, police, etc., to overcome the disaster. In terms of forest fires that are not part of its authority, BPBD may be involved in forest fire fighting after declaring “emergency response status.”

4 Discussion

4.1 Transformational Leader Works with Team Processes

Dionne et al. [17] elaborate a model that explains transformational leadership and team performance employing its processes. Since team performance is an interpersonal relationship based on all processes representing all teams, such as communication, cohesion, and conflict management, these processes were excellent. Furthermore, through the interviews with all BPBD representatives, they illustrated their current condition as a sound kinship.

Idealized Influence/Inspirational Motivation and Cohesion. The prominent process of emerging the awareness to be involved in the forest fires in BPBD of Wonosobo Regency is coming from the cohesion process, which involves two characters in transformational leadership; idealized influence and inspirational motivation. Remembering that cohesion is a factor that the members are motivated to remain in the team, Zulfa shows visionary behavior that he shares through his idealized and inspirational inspiration.

As explained before, during Zulfas’s leadership, he always emphasized that they work in disaster affairs and placed himself as a parent. So understood by the staff, these characters strongly increase the sense of belonging over BPBD as an institution and Wonosobo Regency as the place where they live. They called this “humanity sense,” which pushes them to remain at work even though some regencies are reluctant to fight the forest fires.

Firm and religious are related to each other because Zulfa, explained through the interview, firmly holds his spiritual value, which affects his assertiveness and details. Strengthening the followers’ statement, his partner, the Head of BKD, openly stated that the religious character was the main reason for Zulfa appointment to be the Head of BPBD. For that reason, Zulfa is believed as an emotionally steady person that will lead without abuse of power which probably occurs such as corruption, collusion, or any other conflict of interest.

Zulfa understands that he works in disaster affairs. Therefore, responding to all the issues that occur whenever the problems happen, especially emergencies, he would rapidly respond and optimize his networking to resolve them as soon as possible. Since he reacts quickly, the followers -his staff and affiliated volunteer- are eager to work their duties. For example, when the forest fires in 2019 occurred, the informants illustrated that he successfully organized the related institutions, Perhutani, regional police, regional
army, and neighboring regency, to fight the forest fires. On the other hand, the helicopter, which resulted from collaborative work between the institutions, also took part in the forest fires fighting to bring the water but did not optimally work because the wind caused by the helicopter propeller worsened the situation.

**Individual Consideration and Communication.** It is essential to know that every individual has their particular ability, needs, and ideas. An empowered team environment is vital to encourage team performance. Realized by Zulfa, in his leadership, employs two types of placements; based on skill and based on educational background. However, it needs some measurements, especially communication, to know their abilities. From interviewed informants, the examined insight was that the staff spent time with their leader, Zulfa, to communicate and share the organization ideas.

**Intellectual Stimulation and Conflict Management.** Conflicts occurring in BPBD are triggered from two aspects. The first one is coming from the inside or internal organization, that is, human resources aspects—examined from the data that the personnel in BPBD are not sufficient to support the organization’s necessities. Factually, there are 23 civil servants and 22 non-civil servants. Most of the personnel are technical persons who are unable to think strategically. The issues are getting more significant when the disaster occurs and affects the following action that is supposed to take rapidly.

Optimizing affiliated volunteers is an alternative solution for these problems. However, through the interview, the Head of BPBD emphasized that the possibility of having additional civil servants is few because the Central Government publishes some policies, which is difficult for a local government to add new personnel for disaster affairs and firefighting affairs. Therefore, empowering the affiliated volunteers is an effective solution developed by BPBD to support the personnel of BPBD.

Another solution that came from the grassroots to solve the lack of personnel of BPBD is by optimizing the technology, which can help them simplify their work. Spatial application and technology information has been developed to accelerate their following action in an emergency.

The second problem emerges from the outside of the organization. Considering that forest fires are the Central and Provincial Governments and realizing that the firefighting affairs are only for housing fires, the informants agreed that forest fires are a kind of disaster they solve. Sense of belonging over BPBD as an institution and Wonosobo Regency as the place where they live is strong, leading them to involve and do beyond.

### 5 Conclusion and Recommendation

#### 5.1 Conclusion

The transformational leader in BPBD works with awareness when dealing with disaster affairs. He is persistent in showing his character as a responsive, intelligent, firm, and religious person recognized by his followers as the ideal character of leadership for a government agency that handles disasters. Both formally and informally, good communication is his strength in showing the value of his organization, working on disaster affairs. The communication also successfully created awareness among staff and affiliated volunteers regarding the effects of the disaster (forest fires are no exception): one disaster has a disastrous impact on the place where they live and work.
The BPBD leader successfully develops responsible work in the organization. He trusts his staff with all their jobs because he sets a mechanism by placing the right person by considering their skill and background of education.

Moreover, the Head of BPBD considers the agency to be a close-knit family, creating a sound kinship among the staff to commit to the organization. While there is a lack of personnel in BPBD, the transformational leader makes it a point to encourage and increase the staff and affiliated volunteers’ skills and optimize existing technology toward efficient problem-solving.

It is interesting to understand how the team performs optimally under the leadership of transformational leadership through qualitative research. However, this research needs future development to be improved. Further research is needed to enhance the mechanism of affiliated volunteers participatory in terms of better understanding in leadership effect.

5.2 Recommendation

The obscurities in forest fire disaster management related to its legal instruments resulting in doubts about forest fire fighting must be wisely responded to by policymakers. The revision of related laws is uncertain, yet forest fires remain to occur. A transformational leader is needed, particularly in a disaster management agency, to bridge the problems of legal instruments with the continuity of services to the community. BPBD Wonosobo Regency is supposed to be considered in policy making to develop leadership standards in disaster management agencies that successfully implement transformational leadership and encourage staff to work together in team.

References


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