


## Get to Know More About “The Power of Mama”, Community – Based Disaster Preparedness and Female Heroes for Indonesia’s Borneo Forests

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Article Info	ABSTRACT
<b>Keywords:</b> Mitigation, Disaster, Forest and Land Fires, Women Participation, Women’s Actions in the Governance of Forest and Land Fire Disasters in Indonesia	Indonesia has unique astronomic location which positioning in the south of the equator exerts substantial influence on various facest of the region, including weather patterns, land and forest arrangement, economic dynamics, societal structures, and disaster vulnerability. The country’s reputation as the “world’s lungs” stems from its high precipitation levels, profoundly impacting the expanse of forests. Conversely, the equatorial dry season can usher in extreme high temperatures, giving rise to hazards like forest and land fires, as exemplified in the protected forest areas of Ketapang Village, West Kalimantan. Consequently, comprehensive mitigation strategies involving both structural and non-structural approaches are imperative, engaging a multitude of stakeholders. Notably, women’s leadership roles play a pivotal part in disaster risk management and decision-making, given their influential contributions to rural community development. Furthermore, this initiative aims to curtail the disproportionate toll that disasters, and their aftermath, impose on women. In response to these circumstances, YIARI has instituted “The Power of Mama,” a women’s community initiative spearheaded by homemakers in Ketapang Village, focused on addressing the wildfire disaster risk in Borneo’s Protected Forest, Kalimantan. This analysis of women’s empowerment in forest and land fire disaster governance in Kalimantan draws upon semi-sructured qualitative interviews and insights gleaned from an extensive literature review.
This is an open access article under the <a href="https://creativecommons.org/licenses/by-nc/4.0/">CC BY-NC</a> license 	<b>Corresponding Author:</b> Muhamad Hidayat LSPR Institute of Communication and Business <a href="mailto:m.hidayat@lspir.edu">m.hidayat@lspir.edu</a>

### INTRODUCTION

In 2019, Indonesia was renowned as one of the ten countries with the largest forested areas in the world. The total area was 120,5 million hectares (FAO, 2020). Indonesia, as a country with vast tropical peat swamp forests, plays a key role in mitigating climate change and supporting the Sustainable Development Goals (SDGs) program. Therefore, Indonesia’s carbon reserves can potentially reach up to 80% for the world. Tropical peatlands in Indonesia have been formed since the end of the Pleistocene period due to increased water availability caused by rising sea levels in the Sunda Shelf region associated with the Melt Water Pulse 1a event ((Dommain, et al., 2011), (Anshari, et al., 2001), (Steinke, S., et al., 2003)). Additionally, the intensity of rainfall in the Asian monsoon

season has also increased due to higher sea surface temperatures (Wang, et al., 2001). This is also due to Indonesia's geographic position located precisely south of the equator, which has a significant influence on various aspects of the region, including weather patterns, land and forest management, economic dynamics, social structure, and vulnerability to disasters. Indonesia's reputation as the "world's lungs" stems from its high levels of rainfall, which have a substantial impact on the extensive forests. On the other hand, the dry season in a country situated on the equator can also lead to very high temperatures, resulting in dangers such as forest and land fires, as frequently observed in the protected forest areas of Ketapang Village, West Kalimantan.

Forest fire represent a worldwide occurrence with significant repercussions for ecosystems, the environment, communities, and assets (Partin, et al., 2007). In recent times, the heightened occurrence and intensity of forest fires have been partially linked to shifts in the climate (Kala, 2023). Factors such as prolonged droughts, heatwaves, climate fluctuations, and localized weather patterns can elevate the danger and modify the characteristics of forest fires (Williams, et al., 2019). Land and forest fires rank among the most perilous disasters, emerging within natural or constructed settings due to deficient planning, insufficient information, and ineffective governance (Turco, et al., 2018). They result in significant repercussions for the economy, environment, and social fabric. Therefore, there is a need for disaster preparedness and environmental conservation efforts by the local community to prevent the damage and losses caused by forest fires that can disrupt the development of the region.

One of the key pillars of sustainable development is also disaster risk reduction (DRR), as recognized and stipulated in the 2030 Agenda for Sustainable Development (UNDRR). That is, without DRR, achieving sustainable development will be challenging (Wen, et al., 2023). Since the 1990s, the United Nations has been assisting its member countries in strengthening international DRR frameworks. However, many public policies and international laws still uphold traditional gender roles, assuming that the ideal citizen who remains unacknowledged, is a financially self-sufficient, heterosexual, able-bodied male from the dominant national and linguistic culture (Kimber & Steele, 2021). International non-governmental organizations, and non-governmental organizations (NGOs) play a strong role in the continually changing landscape of DRR (Benson, et al., 2002). Particularly, the role of women's community. However, the lack of adequate female representation in disaster research and policy regulatory gains significance when considering the development of service-oriented initiatives in this field (Rushton & Wilson, 2018).

The participation of women in community-based disaster preparedness is still very limited because their voices and contributions are often underestimated without clear reasons. The exclusion of women from Disaster Risk Reduction (DRR) endeavors is often a consequence of several factors that sustain patriarchal systems (Bradshaw, 2013). This is especially prevalent in small regions. However, women play a crucial role in building community resilience in these areas, such as the role of housewives in communicating disaster preparedness information to their children and husbands. Especially, women play a

role as the first educators within the family. The empowerment of women in Indonesia is considered a crucial asset and investment in improving the quality of the nation's future generations. Currently, as time goes by, women's participation is increasing and they have successfully demonstrated their abilities that are on par with men. In Indonesia, women have made significant contributions to advancing development, both at the village and national levels. For example, the involvement of the women's community in Ketapang Village.

In gender equality, humanity is no longer just a matter of demanding equal rights for an individual or a group. It is also a way to collectively express their roles as living beings in the activities of social disaster management and community development in the region. Therefore, there is a need for awareness and education regarding disaster management from all stakeholders. Both women and men have equal roles and functions, much like the right hand and the left hand, where each has a highly valuable role in supporting one another to face any disasters. To empower women through community-based disaster risk reduction in a small region, Yayasan International Animal Rescue Indonesia established "The Power of Mama," female heroes for Indonesia's Borneo forests in Ketapang village, West Kalimantan, Indonesia. This community focuses on developing women's abilities to be at the forefront of creating positive changes in environment. The Power of Mama's participation in forest fire disaster management includes various technical aspects such as prevention, education, training, as well as activities involvement in disaster response, including firefighting activities when a fire is occurring. Therefore, they also known as a group of female-led in forest fire prevention and firefighting. According to predictions regarding the vulnerability of tropical forests in Kalimantan, Indonesia, without conservation effort, there will be a decrease in forest area of 18,07% between 2018-2030 and 36,28% between 2030-2050 (Sari, et al., 2023).

## METHODS

This research applies a qualitative approach with a descriptive method. Data collection is carried out through field observations and in-depth interviews. Meanwhile, secondary data is obtained from electronic, digital visual, and physical documents collected from stakeholders who have roles related to the research location. The data is collected and then processed into summaries of important information. The data consists of primary and secondary data. Primary data is collected through discussion with several key informants, including the Chairperson of The Power of Mama community, the Chairperson of YIARI, the Regent of Ketapang, and one of the Indonesian Women Leaders in Disaster Management. On the other hand, for the purpose of secondary data, it is obtained from several online media sources that are highly relevant to the research topic. To ensure the validity of this qualitative analysis, the researcher employs a triangulation process, particularly in testing credibility and validity of the data.

This research also uses case study approach related to the recurring forest and land fire disasters in Ketapang Village, West Kalimantan, and involves observing the participation of women, particularly housewives, in preventing and handling these

disasters. This research employs a qualitative approach with a descriptive method. Data collection is conducted through field observations and in-depth interviews, while secondary data is obtained from electronic and physical documents collected from the research location. The collected data is then processed by summarizing important information and identifying themes and patterns. The findings from observations and interviews are presented in narrative text and supported by documents, photos, and images to substantiate the conclusions. Overall, the data analysis in this research utilizes a qualitative descriptive method. The selection of informants is done using purposive sampling technique, where informants are chosen based on their in-depth understanding of the research subject and their competence as key informants in this study. Informants include the Chairperson of The Power of Mama Community and several members with expertise relevant to the research.

## RESULTS AND DISCUSSION

### Mitigation Effort of The Power of Mama Community in Handling Forest and Land Fires Disaster

The Power of Mama is a community consisting of women across generations founded by the non-profit organization International Animal Rescue Indonesia or the Indonesian Natural Rehabilitation Initiation Foundation (YIARI) on June 8 2022. YIARI as an institution that focuses on the protection, welfare and preservation of wild animals of course also pays attention to the condition of the animals' habitats. Moreover, forests in Kalimantan are not only one of the lungs of the world, but also a home for hundreds to thousands of orangutans.

However until now, illegal land clearing using the slash and burn method by irresponsible local communities is still common, often causing fires which then spread and cause forest and land fires and eliminate orangutan habitat. Apart from threatening the future of orangutans, forest and land fires can also threaten the health, food security and resources of local residents. Smoke from forest and land fires can also hamper transportation, education and trade processes.

Based on the problem above, Research and Conservation Program Development Advisor at YIARI for West Kalimantan, Gail Campbell Smith, PhD, found that many local people, especially men, were clearing land by burning it. As a result, it often causes catastrophic forest and land fires which destroy wildlife habitat and harm other residents. Therefore, Gail took an approach and invited mothers to provide understanding to fathers to be more responsible for the land they own. This was also welcomed by Mrs. Maimun from Sukamaju Village, who then invited other women to start making changes to save their own areas by carrying out various efforts to mitigate forest and land fire disasters. This is what ultimately became the beginning of the initiation of The Power of Mama community. Currently, there are 92 members of The Power of Mama community, aged 18 to 60 years. All of its members consist of housewives, teachers, traders, village officials, village chief's wife, and others who are scattered across six villages in Ketapang Regency, West Kalimantan namely: Pematang Gadung Village, Kuala Tolak Village, Sukamaju

Village, Sungai Besar Village, Sungai Awan Kiri Village and Sungai Putri Village. These six villages are the focus of The Power of Mama's monitoring area in preserving the environment and preventing forest and land fire disasters.

Efforts to mitigate forest and land fires carried out by The Power of Mama to date include: carrying out activities related to environmental conservation, carrying out land patrols to prevent and monitor fire hotspots, and being active in assisting village residents' agricultural and fisheries activities. Every day, two representatives from The Power of Mama in each village carry out land patrols. This activity is carried out in the afternoon because fire hotspots occur more often in the afternoon. In its implementation, The Power of Mama also collaborates with the police and Maggala Agni.

These mitigation activities can certainly be effective because of the implementation of a structured and consistent disaster communication strategy. Disaster communication plays an important role in the disaster management cycles starting from pre-disaster, emergency response, and post-disaster. Success in implementing disaster communication models can help the community and various (Hidayat et al. 2023). According to Haddow in his book entitled "Disaster Communication in A Changing Media World" states that disaster communication is environmental communication carried out as a form of effort to prevent disasters and with the aim of minimizing the number of fatalities. Therefore, according to Haddow, there are four pillars or main foundations for realizing effective disaster communication, including: customer focus, situational awareness, leadership commitment, inclusion of communications in planning and operations, media partnership (Haddow, 2019).

The following is a representation of the women's community initiative The Power of Mama based on Haddow's theoretical framework of disaster communication: **Customer Focus**, with the aim of obtaining quality disaster information to meet community needs, is a crucial aspect in mitigation and response efforts to disasters. In this case, the importance of ensuring the accuracy and consistency of the message conveyed becomes a priority. Therefore, to realize this principle, The Power of Mama community adopted a technology mobilization strategy through communication platforms such as WhatsApp groups. Through the WhatsApp group, The Power of Mama members on duty can easily provide the latest information regarding land conditions and hotspots. Through outreach and the WhatsApp platform, The Power of Mama is also open to all reports related to forest and land fire disasters in the six villages that are its focus area. **Situational Awareness**, refers to transparent communication that can provide a comprehensive and accurate understanding of the current disaster situation. So to implement this principle, The Power of Mama provides reliable information sources such as the social media platforms Instagram and WhatsApp as emergency news whose information can also be updated regularly, and distributed to residents and local authorities. This method is certainly very helpful in disseminating accurate and timely messages, thereby encouraging active and responsive participation from recipients of information in joint efforts to overcome the impacts of disasters. Transparency in communication is also realized through detailed reports regarding the latest forest fires which include location, time of occurrence, type of land



affected, and parties already in the field. **Leadership Commitment**, emphasizes the importance of leader involvement in implementing effective communication strategies. At The Power of Mama, all members are leaders who must care about and be responsible for the environment in their area. As a form of leadership that is also responsible for monitoring and evaluation, The Power of Mama also implements regular evaluation meetings. Due to its leadership, The Power of Mama often gains trust in local policy making regarding disaster management. This is proven by the police's invitation to The Power of Mama to take part in a meeting which should not include people outside the police profession. **Inclusion of Communications in Planning and Operations**, or the inclusion of disaster communication which must be carried out in a responsive and timely manner because it can influence policy making and action decisions related to disasters. Of course, this principle is also applied by The Power of Mama through its activity procedures which consist of several concrete steps including: carrying out patrols on land close to settlements, carrying out sizing up before making a report, making an updated report if a fire spot is found, carrying out cooperation by providing information for the first time to responsible parties at the village government level, then coordinating with sub-district authorities including the Sector Police Chief, Manggala Agni, Forest and Land Fire Brigadier, Forest Observation Point and the Regional Disaster Management Agency to ensure adaptive and efficient disaster management. and optimal in terms of speed. In the context of implementing disaster communication, members of The Power of Mama were given in-depth public speaking training to improve their ability to convey messages clearly and effectively. Furthermore, YIARI which oversees The Power of Mama, also empowers its members by providing various training facilities. These facilities are often initiated by the members themselves and include occupational safety training, such as conducting briefings, pre-patrol vehicle quality checks, and the use of safety gear such as helmets. Additionally, training in public speaking and the utilization of advanced technology such as drones and smartphones is also provided. The aim is to enhance the confidence of members as village residents, enabling them to become more courageous, vigilant, and capable of collaborating with various stakeholders. Lastly **Media Partnership**, which has a big role in the communication process. By using media, dissemination of information to the public can be carried out quickly and easily. There are two types of media that can be used, namely: mainstream media and non-mainstream media. The Power of Mama itself utilizes non-mainstream platforms such as Instagram through the account @thepowerofmama to disseminate information and strengthen the voices of women's participation in efforts to reduce disaster risks and preserve the environment.

Effective disaster communication certainly plays a crucial role in disaster mitigation. Following are several strategies for realizing effective disaster communication according to Farika Nur Khotimah, Plt. Executive Director of Indonesia Resilience, including: clear and fast early warning, namely by providing an early warning system that is effective and easy to understand by all levels of society and utilizing various communication channels such as text messages, radio broadcasts, or sirens to ensure that early warning information reaches everyone; public education, namely providing education regarding disaster risks in the local

area and how to deal with them, as well as providing easy-to-digest educational materials such as emergency action guides and evacuation routes; inclusive communication, namely by ensuring that communication can cover all levels of society, including vulnerable groups such as children, the elderly and the disabled, in addition to implementing multilingual campaigns using media that can be accessed by various groups; community involvement, namely involving community activity in planning and implementing disaster mitigation strategies, then building local communication networks to ensure information circulates quickly and effectively; social media and technology, namely utilizing both to disseminate information and mobilize support in disaster situations, as well as creating online platforms that provide the latest information and resources related to disaster mitigation; simulation training, namely conducting exercises to increase public understanding of evacuation procedures and emergency actions, as well as building awareness about the importance of preparedness and rapid response; collaboration with the media, namely, working together to convey accurate information, then involving journalists to support the delivery of key messages; positive and motivational messages, namely communicating positive messages to inspire the community and increase their participation in mitigation efforts, and motivate the community to take preventive action and prepare themselves actively; evaluation and learning, meaning evaluating communication strategies after a disaster to evaluate effectiveness and identify areas for improvement, then applying learning from previous disaster experiences to improve future communication strategies. The function of implementing a holistic and adaptive disaster communication strategy is to increase community awareness, preparedness and response in facing disasters.

### **The Importance of Women's Voices in Disaster Risk Management**

According to the Sendai Framework for Disaster Risk Reduction (SFDRR) spanning the period of 2015 to 2030, which represents an agreement among signatory nations to commit to disaster management within their respective countries. This framework agreement is an adoption from The Third United Nations World Conference on Disaster Risk Reduction held in Sendai, Miyagi, Japan, from March 14 to 18, 2015. The Following are priority indicators for a country to fulfill its commitments under the SFDRR: understanding disaster risks, strengthening disaster risk management, investing in disaster risk reduction to enhance resilience, and improving disaster preparedness for effective response and "Build Back Better" initiatives. The SFDRR framework also emphasizes the importance of the roles of stakeholders such as civil society, volunteers, organized volunteer organizations, participatory community-based organizations, and others (Asadel, Kurniawan, Setiawan, 2022).

Community participation at the village level is an example of the very important role of the smallest groups in disaster management. This is because they have a better understanding of local weather and environmental patterns, risks and needs for their own communities. By utilizing this understanding, it will be easier to identify potential risks, design mitigation strategies and appropriate responses when a disaster occurs. Citizen participation in the decision-making process can also help disaster management plans to be more relevant, accepted and implemented effectively. Not only that, the involvement of

local communities can also increase their sense of responsibility and responsiveness to warnings and instructions from fellow residents.

Within the SFDRR framework, it is also explicitly stated that the involvement of women is crucial and effective in disaster risk management. Currently, in Indonesia the role of women in managing disaster risk is very much needed in the family environment. According to Farika Nur Khotimah, there are several reasons why women's participation is important in disaster risk management, including: First, women are often more sensitive and have more detailed knowledge regarding local environmental conditions and possible risks. Second, the role of women as family caregivers and community members so that their involvement in mitigation planning can take into account the needs of families and the protection of children. Third, women are more active in building social networks so that they can strengthen community capacity in responding to disasters, facilitate effective communication, and ensure timely distribution of information. Fourth, not infrequently in disaster situations, women are more often responsible for the management of water and food resources so that their involvement helps with mitigation planning and fair and efficient distribution of these resources. Fifth, women's participation in disaster risk management is also a form of women's empowerment in building more resilient and sustainable communities because this facilitates women's access to knowledge, training and decision making.

The important role of women in managing disaster risk above also shows that there is a close connection between women and the natural environment. This is because natural environmental conditions greatly influence the potential for natural disasters to occur. Not surprisingly, the earth is often referred to as *prthivī matā* (Sanskerta) which means Mother Earth or Mother Earth. This name is none other than because the earth is the place where humans are born and lie down again as bodies. The earth gives life to all creatures, such as humans who get food and drink from the earth's essence, namely flora, fauna and water. Therefore, symbolically, the earth is often compared to a woman. Moreover, the Mollo indigenous people also believe that nature is like the human body. lungs and hair. They believe that destroying nature is the same as destroying one's own body. Example: forests function to protect land and maintain water sources. Just as skin and hair protect flesh and blood. (Mahadewi, 2019).

Unfortunately, now the earth is increasingly vulnerable to a decline in the quality of its ecosystem because it threatens the survival of all forms of life. Rampant environmental damage, such as deforestation and land degradation, is a serious threat that needs to be addressed immediately. This phenomenon has contributed greatly to the increase in greenhouse gas emissions which are the main cause of global warming and the melting of ice that occurs at the North Pole and South Pole. As a result, the volume of sea water increases and threatens marine ecosystems, coastal areas, and the welfare of humans who depend on them. Global warming not only increases the earth's temperature but also causes extreme changes in weather or climate patterns which can cause various natural disasters.



Women are one of the vulnerable groups who often bear a double burden when exposed to the impacts of climate change. In some coastal areas, for example, apart from being responsible for domestic household work, women also work to earn additional funds because their husbands' income as fishermen has decreased due to the impact of extreme weather changes. Apart from that, the negative impacts of environmental damage, such as floods and droughts, also have the potential to hamper women's performance of household duties, such as cooking, caring for children, washing, and etc (Rusmadi, 2016).

Likewise, forest and land fires in Ketapang can pollute air and water quality and disrupt the food security of a family, especially those with elderly people, children and pregnant women. Therefore, the presence of The Power of Mama community does not only focus on gender issues but also focuses on environmental issues. As stated by Mrs. Gail, the initiator of The Power of Mama, that Mama members have 100% implemented the principles of Sustainable Development Goals or SDGs number 3 (Good Health and Well-Being), 5 (Gender Equality), 7 (Affordable & Clean Energy ), 13 (Climate Action), and 17 (Partnerships for the Goals). This was also proven by the awarding of the Celan Air Championship Award 2023 at the national level, in the category of people concerned about fire and forest and land fire control in the Kalimantan and Sumatra areas, which was initiated by the Faculty of Forestry and Environment, Bogor Agricultural Institute and FIELD Indonesia.

Behind the success of The Power of Mama lies the significant role played by material support from various foreign funders such as United Kingdom, Australia and America. This phenomenon aligns with the preference of foreign media outlets to cover the existence of The Power of Mama over local media. From this, it can be concluded that the issues of women empowerment and environmental concerns in Indonesia still lack adequate attention. This indicates that there is still much work to be done by Indonesia to advocate for wider recognition and support for gender, environmental, and ecofeminist perspectives.

The following are the primary factors that hinder the implementation of climate change and SDGs efforts in Indonesia, according to Farika Nur Khotimah: Indonesia's dependence on fossil energy sources, uncertainty in data and understanding, limitations in resources and capacities, minimal involvement from the private sector and society, fragmented policies and coordination, legal uncertainty and land ownership, unsustainable consumption and production patterns, high vulnerability levels, the importance of economic development, and public awareness and education.

## CONCLUSION

Although originating from a small village community that consisting of individuals from various ages and background, the nascent two-year-old community of The Power of Mama is now recognized internationally. YIARI, an organization that has also supported them, has successfully encouraged their participation and provided facilities to enhance the skills of local women. Through the implementation of effective disaster communication strategies, The Power of Mama has also managed to build trust within the local community and strengthen cooperation with regional stakeholders. Consequently, this has attracted the

attention of the government and opened avenues for women's involvement in disaster management. As mother who play crucial roles within their families, they have effectively conveyed the importance of responsibility to fathers in villages regarding their land. So it can be concluded that women's involvement in disaster management is vital as they understand every circumstance, need, and how to approach starting from within the family nucleus. In the context of forest and land fire mitigation, The Power of Mama has proven that women's involvement can yield effective and sustainable solutions. As a community focused on gender and environmental issues, The Power of Mama has successfully implemented the Sendai Framework for Disaster Risk Reduction, Climate Change Efforts, and the principles of the Sustainable Development Goals. Due to their commitment to environmental conservation, they were awarded The Clean Air Championship Award in 2023 at the national level. Therefore, it is not surprised that they are rightfully hailed as female heroes for the forests across six village in Ketapang Regency.

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