



# Youth Engagement in Flood Disaster Management in Malaysia

Mohd Rozaimy Ridzuan, Jamal Rizal Razali, Noor Amira Syazwani Abd Rahman & Soon Yew, Ju

**To Link this Article:** http://dx.doi.org/10.6007/IJARBSS/v12-i5/13250 DOI:10.6007/IJARBSS/v12-i5/13250

Received: 13 March 2022, Revised: 16 April 2022, Accepted: 29 April 2022

Published Online: 10 May 2022

In-Text Citation: (Ridzuan et al., 2022)

**To Cite this Article:** Ridzuan, M. R., Razali, J. R., Rahman, N. A. S. A., & Soon Yew, J. (2022). Youth Engagement in Flood Disaster Management in Malaysia. *International Journal of Academic Research in Business and Social Sciences*, *12*(5), 846 – 857.

Copyright: © 2022 The Author(s)

Published by Human Resource Management Academic Research Society (www.hrmars.com) This article is published under the Creative Commons Attribution (CC BY 4.0) license. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non0-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this license may be seen at: <u>http://creativecommons.org/licences/by/4.0/legalcode</u>

### Vol. 12, No. 5, 2022, Pg. 846 – 857

http://hrmars.com/index.php/pages/detail/IJARBSS

JOURNAL HOMEPAGE

Full Terms & Conditions of access and use can be found at http://hrmars.com/index.php/pages/detail/publication-ethics





### Youth Engagement in Flood Disaster Management in Malaysia

FFRNATIONAI IOURNAI

Mohd Rozaimy Ridzuan<sup>1,2</sup>, Jamal Rizal Razali<sup>1</sup>, Noor Amira Syazwani Abd Rahman<sup>2</sup> & Soon Yew, Ju<sup>2</sup>

<sup>1</sup>Centre for Human Sciences, Universiti Malaysia Pahang, Pahang Darul Makmur, Malaysia, <sup>2</sup>Faculty of Administrative Science & Policy Studies, UiTM Pahang Branch, Raub Campus, 27600 Raub, Pahang, Malaysia

#### Abstract

Most countries worldwide acknowledge the importance of youth in driving the country forward in terms of politics, society, and the economy. This group is known for its enthusiasm, energy, and ability to make sound decisions. Their involvement in flood disaster management is critical to the well-being of flood victims. The fact that countries have enlisted the help of youth in flood disaster management is not surprising. Flood disaster management requires youth involvement to construct an all-encompassing plan that meets countries' demands. Some youths, however, fail to make use of their unique position to get involved in flood disaster response efforts. Research on youth's abilities and contributions as change agents in their communities has been scant, despite the benefits of their involvement in disaster risk reduction (DRR). Therefore, this study will investigate Malaysian youth participation in flood disaster management. This qualitative research examines and analyses papers from various sources, including journal articles, newspaper articles, and government documents. The findings revealed that most Malaysian youths were actively involved in flood disaster management, particularly during and after a flood. As part of the assistance provided, funds were raised, the victim's house was cleaned up, food and clothing were provided, and the flood victims were rescued. This study contributes to enriching knowledge on youth in flood disaster management. The findings of this study will help policymakers formulate sound public policies and programs to encourage youth to participate in flood disaster management. Keywords: Disaster Risk Reduction, Disaster Management, Flood, Youth, Youth Engagement

#### Introduction

Climate change is causing an increase in floods, wildfires, and other natural disasters worldwide (Bates et al., 2008; Wallemacq et al., 2015). These disasters provide complicated difficulties to communities because disruptions can occur in the social, economic, political, environmental, and psychological domains (Aitsi-Selmi et al., 2015; Osofsky & Osofsky, 2013). Floods are the most common natural disaster, particularly in Malaysia. Although floods occur regularly, the consequences are severe enough to result in loss of life and property. Many countries today support and empower youth. It is a well-known fact that youth are the backbone of any nation, accounting for most of its valued human resources. The responsibility

for change, progress, and creativity reside in how this nation's youth are shaped to think positively and contribute to national growth.

In their positions as risk communicators and community mobilizers, youth have a unique opportunity to impact their families and communities (Lopez et al., 2012; Tanner et al., 2009). Youth have a critical role in disaster management, particularly preparedness and response, and their inclusion is highly needed. According to Edi Kurniawan et al (2021), a complete disaster management program necessitates higher youth participation. Youth participation in flood disaster management, on the other hand, has received very little attention (Kurniawan et al., 2021).

Eker & Yilmabaşar (2018) claim that the role of youth in disaster management has not gotten a significant amount of attention. This situation happens because the older generation still dominates the movement. Besides that, Krauss et al (2020) contend that youth are underrepresented in their communities and organizations' governance and decision-making processes.

Therefore, this study investigates how Malaysian youth are involved in flood disaster management. This study utilizes peer-reviewed studies, government publications, and other sources of information, including newspapers, to investigate the involvement of Malaysian youth in flood disaster management. The structure of this document is as follows: This study begins by discussing the importance of youth in disaster risk reduction (DRR). A discussion of youth and flooding follows. The following part will detail how Malaysian youth are involved in flood disaster management. The conclusion and recommendations will be included in this paper's last part.

#### Youth and Disaster Risk Reduction

Disaster Risk Reduction (DRR) is defined as the systematic creation and deployment of policies, strategies, and practices to reduce vulnerabilities, hazards, and the spread of disaster consequences throughout society, in long-term development (UNISDR, 2004). Nifa et al. (2016) contend that DRR is a technique to lower the damages caused by a catastrophic disaster by recognizing, analyzing, and managing disaster risks, reducing the community's vulnerability.

The United Nations has encouraged youth participation in DRR and resilience building through various initiatives, including developing action guidelines. These guidelines advise practicable implementation and a people-centred approach to supporting and engaging youth in disaster risk reduction and resilience-building (UN Office for Disaster Risk, 2020). UNDRR previously hosted a World Tsunami Awareness Day in New York City, which university students largely attended. As part of the event, they urged additional educational initiatives involving youth in DRR (UN Office for Disaster Risk, 2018).

As a result of the negative consequences climate change has on all countries, governments worldwide have pledged to work together to combat it. Sustainable Development Goals (SDGs) were agreed upon by members of the United Nations, including Malaysia, in 2015. When achieved, these objectives will have a profound impact on the globe, necessitating the cooperation of everyone, especially young people and institutions. A vital component of this development strategy is focusing on youth, who hold great promise as agents of social revolution (Rahman, 2020). As one-third of ASEAN's total population, youth can play a critical role in disaster preparedness, mitigation, and adaptation efforts because of their diverse backgrounds and abilities (Rahman, 2020).

Disaster preparedness information was distributed by teenagers in Australia (Ronan et al., 2008) and El Salvador (Mitchell et al., 2008) to their families and communities. There has been a focus on the involvement of young people in Sri Lanka, India, Indonesia, and Thailand in disaster relief efforts (Penrose & Takaki, 2006). Through consultation and policy review, youth in the Philippines helped in disaster recovery in the aftermath of typhoon Haiyan (Fernandez & Shaw, 2015).

Youth are capable of making a difference in their communities. Hence, DRR methods must ensure that youth are actively involved. Participation is significant when it allows youth to express their views on community issues, create collaborative partnerships with adults, and be viewed as stakeholders and decision-makers in their communities (Wong et al., 2010; Frank, 2006). Understanding risks and developing communication and leadership skills are two of the benefits of meaningful youth participation (Mitchell et al., 2008). Most countries view youth as an important demographic, and they are actively encouraged to participate in decision-making processes to lessen the impact of flooding. When it comes to disaster preparedness, youth are mature enough to get involved and aid in the efforts of others.

Youth participation in disaster prevention, planning, recovery, and response activities can help their families, and communities better prepare for and respond to disasters. youth may educate their communities about catastrophes and teach them how to cope before, during, and after a disaster occurs. When calamity strikes, they will be better able to defend themselves and others. This situation can reduce the panic and disorder following calamities to a limited extent. So it is the job of the nation to employ these formidable resources by providing youth with disaster training and social service knowledge, as well as managerial positions in rehabilitation and post-disaster reconstruction (Rahman, 2020).

Disaster management relies heavily on youth participation, regardless of age or position. Youth have high levels of creativity, self-assurance, and fearlessness when expressing new ideas, contributing to lowering disaster risk particularly valuable (Vicerra et al., 2018; Fothergill, 2017; Garg and Sam, 2020; Cox et al., 2018). Those who have participated in risk management and risk reduction programs have a better awareness of security challenges and measures. In addition, they actively pushed for increased readiness in their immediate surroundings and at home (Finnis et al., 2010). They have the power to educate their communities on disaster preparedness and mitigation strategies and influence societal norms and behaviours in positive ways. Therefore, their ability to make a meaningful impact in times of crisis should not be underestimated (IFRC, 2011).

Preparedness and recovery activities can benefit significantly from the involvement of youth. They can help parents and communities get ready for disasters by mapping out their vulnerabilities and strengths. Leaders of disaster preparedness initiatives and information exchanges can also be found in these individuals (Ronan et al., 2015). Due to their high level of physical energy, they can take immediate action in the event of an emergency and aid others in their preparation and response (Rahman, 2020). The youth's ability to bounce back from adversity, such as natural calamities, is a testament to their adaptability. They can think beyond the box regarding catastrophe preparedness (Bartlett, 2008). Due to their high level of physical energy, they can take immediate action in the event of an emergency and aid others in their preparation and response (Rahman, 2020).

A bottom-up approach to disaster management is advocated by community-based disaster preparedness, which incorporates youth. The length of this phase can vary depending on the event's severity. Whatever the amount of preparation at the highest level, it takes 24 to 48 hours for a typical community to receive the message in its current state. As a result, it is

prudent to provide rescue, first aid, and psychological first aid training to the community's youth to function independently in case of an emergency (Rahman, 2020).

Because of their expertise in science, entrepreneurship, technology, and information, youth can help improve disaster management (Cox et al., 2018). To reduce disaster risk, fresh ideas from youth have a high level of creative potential, self-confidence, and boldness (Vicerra et al., 2018; Fothergill, 2017; Garg & Sam, 2020; Cox et al., 2018). When young people handle catastrophe recovery, community resilience can soar (Cox et al., 2019). Despite the many advantages of including youth in DRR, little research has been done on their perspectives, capacities, and contributions as active agents of change in their communities (Muzenda-Mudavanhu, 2016; Peek, 2008). Cultural, political and economic impediments, adult-oriented institutions, and adults' inability to understand youth hinder meaningful engagement of youth in DRR activities (Frank, 2006; Fleming, 2013).

Youth engagement in DRR is hampered by institutional obstacles and societal attitudes and beliefs regarding youth participation (Frank, 2006; Fleming, 2013). As Frank (2006) explains, the vulnerable perspective of youth assumes that young people lack authority and are consequently in need of adult protection, which harms their engagement in society. As a result, young people are underrepresented in positions of power in their communities and the organizations they belong to (Krauss et al., 2020). Rahman (2020) claims that youth are under-resourced for disaster preparedness, and many of those aware of catastrophes' potential consequences are unprepared to deal with them. An assessment of youth capacity is required to assist stakeholders and the community in deciding how and where the youth will be involved in the disaster management strategy (Edi Kurniawan et al., 2021).

The economic and demographic stability of any nation is dependent on the long-term contributions of its young population. The country's workforce is projected to benefit from new and updated skills brought in by the country's youth population, which usually makes up the majority of the workforce. An essential step in India's disaster management was taken in 2005 when the government passed the Disaster Management Act, emphasizing the importance of including young people in disaster planning and response phases. Good disaster management must understand the value of integrating catastrophe-affected youth in the planning process rather than treating them as victims or passive consumers of outside assistance (Roy et al., 2014).

#### Youth and Flood

According to Adhikari et al. (2010), flooding accounts for one-third of all hydrological risks on Earth and affects billions of people (Zarekarizi et al., 2020). According to the Emergency Events Database, 50,000 people were killed, and 10 per cent of the world's population was affected by floods between 2009 and 2019 (CRED, 2019). Increasing population and climate change are anticipated to lead to more frequent and extensive flooding (Leung et al., 2019). Floods have a devastating effect on crops, infrastructure, housing, and health and sanitation in many Third World countries' populous floodplains (Alexander, 2018).

Developing flood prevention and preparedness in communities and families is a top priority for youth (Walker, 2016). In the current flood policy, children and young people are either ignored or placed in a labelled 'vulnerable' group (disabled people, older people, etc.). This situation demeans and marginalizes youth. Hence, better policy-making could be made by better understanding their viewpoints and capabilities. This way could help decrease the impact of future natural disasters (Walker, 2016). Participation by the general public, particularly youth, is critical to reducing the adverse effects of flooding on the country.

According to Edi Kurniawan et al (2021), the role of youth in flood disaster management has not been well studied. Youth involvement in disaster management must be increased if the program meets regional needs and becomes more comprehensive (Kurniawan et al., 2021). Youth participation in community activity is likely to increase their resilience (Octastefani & Rum, 2019; Vicerra et al., 2018). Youth involvement is likely to positively impact floodingrelated issues, such as distributing positive information to boost community confidence following the disaster and speeding up rehabilitation (Janicke-Bowles, 2018). Community awareness-raising activities and early flood warning systems significantly impact active youth participation, particularly in flood-prone areas. Flood disaster response simulations, education, outreach, and training are needed for today's youth, whether they live in floodprone areas.

Based on the discussion above, it can be concluded that youths are denied the opportunity to participate in flood disaster management because they have been viewed as fragile and undervalued. As a result of this predicament, adults have always neglected their input. The truth is that young people nowadays are capable of being involved in flood disaster management if they are given a chance to attend flood disaster management training or courses. Educating the next generation on the significance of disaster preparedness and response is a top priority (Kurniawan et al., 2021).

#### The Malaysian Youth Engagement in Flood Disaster Management

Malaysia's youth are the country's backbone, driving economic change and helping to shape Malaysia's future. Almost half (45.8%) of Malaysia's population, or 14 million people, is under 35 years old; this demographic is crucial in solving many of the country's most pressing problems (Department of Statistics Malaysia, 2019). The country's youth must be involved in environmental issues to ensure the long-term viability of Malaysia's ecology (Wee et al., 2017).

Youth in Malaysia plays a significant part in disaster response and recovery efforts. Kraussa et al (2020) examined the role of young people in flood management. They discovered that youth help raises money to provide relief to flood victims and food and medical supplies for those who need them. Cleanup and temporary shelter were also supplied after the floods had subsided and cleared the area. Several states, particularly Selangor, were devastated by floods in mid-December of 2021, causing the community to reevaluate the youth's role in saving flood victims. A young man rescues flood victims in his kayak, which he typically uses to fish on weekends. At least 54 people were killed, and more than 70,000 were displaced by torrential rains and climate change in December 2021 and early January 2022 in Malaysia's worst flooding in a decade. When the neighbouring river burst its banks and water levels surged to at least one meter in Taman Sri Muda, a hard-hit Shah Alam neighbourhood, groups of kayaks organized to spearhead an operation to rescue families trapped on their roofs (Ahmad, 2021).

More than 50,000 volunteers, 60 per cent under 35, rushed to help those affected by the devastating floods. Many young Malaysians were among the volunteers who went above and beyond the call of duty (Kumar, 2022). Since swimming is a component of the region's adaptive culture, young people near rivers tend to be strong swimmers (Isahak, 2017). Many young people also utilize private boats to rescue flood victims, particularly those who are elderly or infirm. In the aftermath of the 2021 floods in Selangor, Dato' Seri Amirudin Shari recognized that youth played a vital role in flood recovery. He praised the state's ability to

handle problems more quickly because of the contributions of youth, particularly during the post-flood stage.

People in Selangor were able to overcome their grief and move on with their lives after the devastating floods, thanks in part to the efforts of the youth engaged. Youth's dedication amid the floods is evidence of their readiness to confront whatever comes their way (Ramli, 2022). Rescue efforts for flood victims are aided by the youthful ingenuity and resourcefulness of the populace. An unheralded band of Kampung Sri Tanjung youths joined to rescue stranded villagers using a water barrel raft, yet their efforts have gone unrecognized. Even though the water was rising so quickly, the youth was willing to transport the people to the neighbouring Temporary Evacuation Center (PPS). Until the fire department arrived, they rescued the flood victims. They all agreed that the elderly and children should be the first to be saved because of their vulnerability. One hundred and fifty people can be evacuated from the residence using an inflatable raft that seats roughly five to six people (Sukaimi, 2021).

University students also participated in various relief missions, such as the recent flood crisis that struck the country. Several Malaysian public universities, such as University Technology MARA (UiTM), Universiti Tun Hussein Onn Malaysia (UTHM), Universiti Pertahanan Nasional Malaysia (UPNM), Politeknik Sultan Abdul Halim Mu'adzam Shah (POLIMAS), and Universiti Kebangsaan Malaysia (UKM), helped flood victims by raising funds, cleaning houses and schools, providing food and clothing, and providing psychological assistance to encourage the victims to resume life.

Youth also assisted flood victims in restoring their homes. A total of 110 youth volunteers were reported to have assisted in the completion of the restoration of flood victims' homes (Harakah Daily, 2022). Dato 'Siti Zailah Mohd Yusoff, Deputy Minister of Women, Family, and Community Development, praised the volunteers' spirit and determination in rebuilding flood victims' homes.

Because youth are enthusiastic and young, their involvement in flood management is focused on assisting flood victims with cleaning up their homes. The Sepang Parliamentary Citizen Service Center reported that many youths were involved in cleaning the flood-affected housing area and Dengkil village. 45 MUDA party members, 75 Universiti Kebangsaan Malaysia students, and 40 Sepang volunteers participated in the cleanup. With a team of about 40 individuals in Sepang, they were able to assist in cleaning three units of flood victims' shops in less than five hours (Radzi, 2021).

Sympathetic to the plight of flood victims, particularly the elderly, a group of young people assisted in cleaning the homes of impacted inhabitants in Malacca's Kampung Belimbing Dalam. The action included 15 youths aged 22 to 27 years old from the Durian Tunggal Youth Group, volunteering since December's first wave of floods. A private company, Benojaya Group Sdn Bhd, also assisted them by delivering donations to flood victims (Reza, 2022).

As previously noted, youth provided far too much additional assistance in assisting flood victims during the storm. During the flood events, a group of young people chose to save the lives of victims. Many youths braved the floodwaters to distribute food and other needs, clambering over houses to deliver them to those in need (The Sun Daily, 2021). When the floodwaters receded, teenagers and many other volunteers assisted in cleaning homes and places of worship and salvaging and repairing damaged items (Savitha, 2021).

#### Conclusion

Youth can be powerful advocates for disaster risk reduction and climate change mitigation in their varied communities and groups. They are known to be robust in the face of calamities,

and their potential contributions to disaster preparedness and recovery must be considered (Drolet et al., 2015). In this way, their contributions are already making a difference through more inclusive disaster risk reduction and resilience-building policies, better-prepared households, healthier children and youth, and safer communities (UNDRR, 2021).

Youth participation and contribution are crucial that all parties must never overlook or dismiss them from the national development agenda. Youths must be empowered, just as they are in other nations, by incorporating into government decision-making and policy-making processes. According to Pandve et al (2009), giving youth leadership roles in environmentalbased activities empowers them with the skills and confidence they need to take action to protect the environment. Besides that, their participation in decision-making processes and the development of their ideas must be encouraged (Narksompong & Limjirakan, 2015). They also require proper direction and training in various areas, including disaster management.

Capacity-building among community members, particularly youth, can provide confidence in dealing with disaster situations because youth are considered the most receptive group. They can share this valuable information with their families, friends, and community. They also can contribute to an effective disaster preparedness plan to prevent potential disaster effects. Youth can play various roles in preparedness programs, and they can also play an essential role in recovery efforts. Youth can raise awareness of specific hazards, increase the likelihood of openly discussing protecting their families and loved ones, and understand how to seek help if their community is affected by involving youth in disaster preparation and recovery efforts. They may help communities map their risk and protective variables, or they may take positions of leadership within programs.

Aside from that, youth can assist the government in spreading the word of disaster preparedness to others. They functioned as change agents by disseminating information learned in youth preparedness programs and assisting parents and communities in disaster preparation, such as drafting a disaster plan or preparation pack. They can also contribute innovative and resourceful ideas to disaster preparation initiatives. Flood preparedness innovation competitions need to be organized to inspire young people's creativity in dealing with flooding. This app, Sai Fah: The Flood Fighter, has been developed for Thai youth and children, and it provides education about floods by emulating real-life scenarios (Regional Coordination Mechanism, Group Asia-Pacific Thematic Working Group on Youth United Nations Development, 2015).

Education plays a vital part in preparing a community for impending calamities. Youth must be educated and equipped with the knowledge to deal with the adverse effects of natural disasters. This matter is required to reduce youth sensitivity and increase resiliency throughout these circumstances. Because of education, people will be well-versed in what to expect when a disaster strikes, prepare, do, and cope in such situations (DeLavega, 2004).

To summarise, Malaysian youth were actively involved in disaster risk reduction activities. They work together as volunteers or in groups to assist flood victims in rebuilding their lives. In Malaysia, youth are prevalent in the current and post-flood stages. They assist the victims by providing food and saving people's lives using their resources like a boat and raft. They are compelled to do so since their civic duty is to assist the needy during the disaster. Youth were also actively involved in flood disaster management through affiliated institutions, such as their universities. Because colleges supply resources like buses and money, the youth can use them to lessen the impact of the flood on victims.

#### Acknowledgement

This research is not under a specific grant from any funding agency in the public, commercial or not for profit sectors. The authors would like to express their gratitude to the University Malaysia Pahang and Universiti Teknologi MARA for their support in the publication of this article.

#### **Corresponding Author**

#### Mohd Rozaimy bin Ridzuan

Centre for Human Sciences, Universiti Malaysia Pahang, Pahang Darul Makmur, Malaysia. Faculty of Administrative Science & Policy Studies, UiTM Pahang Branch, Raub Campus Email: rozaimy@uitm.edu.my

#### References

- Adhikari, P., Hong, Y., Douglas, K. R., Kirschbaum, D. B., Gourley, J., Adler, R., & Brakenridge, G. R. (2010). A digitized global flood inventory (1998–2008): compilation and preliminary results. *Nat Hazards*, 55(2), 405–422.
- Aitsi-Selmi, A., Egawa, S., Sasaki, H., Wannous, C., & Murray, V. (2015). The Sendai framework for disaster risk reduction: renewing the global commitment to people's resilience, health, and well-being, *International Journal of Disaster Risk Science*, 6(2), 164–176.
- Alexander, D. (2018). Natural disasters. Routledge, London
- Isahak, A. (2017). Engaging local communities through local knowledge of flood disaster management in the Pahang river basin, Malaysia. Retrieved on 31 March 2022 from https://malaysiacities.mit.edu/sites/default/files/documents/Isahak.pdf
- Bates, B. C., Kundzewicz, Z. W., Wu, S., & Palutikof, J. P. (2008). Climate Change and Water: Technical Paper of the Intergovernmental Panel on Climate Change, IPCC Secretariat, Geneva, 2008. Retrieved from, https://www.ipcc.ch/publication/climate-change-andwater-2/.
- Cox, J., Finau, G., Kant, R., Tarai, J., & Titifanue, J. (2018). Disaster, divine judgment, and original sin: Christian interpretations of tropical cyclone winston and climate change in Fiji. *The Contemporary Pacific*, *30*(2), 380- 410.
- CRED. (2019) CRED: EM-DAT: the international disasters database. https://www.emdat.be/database.
- Cumiskey, L., Hoang, T., Suzuki, S., Pettigrew, C., & Herrgard, M. M. (2015). Youth Participation at the Third UN World Conference on Disaster Risk Reduction. *Int J Disaster Risk Sci, 6*, 150–163
- DE LAVEGA, E. L. (2004). Awareness, knowledge, and attitude about environmental education: responses from environmental specialists, high school instructors, students, and parents (Doctoral dissertation, University of Central Florida Orlando, Florida).
- Department of Statistics Malaysia. (2019). Current population estimates, Malaysia. Retrieved from https://www.dosm.gov.my/v1/index.php?r=column [15 April 2022].
- Drolet, J., Dominelli, L., Alston, M., Ersing, R., Mathbor, G., & Wu, H. (2015). Women rebuilding lives post-disaster: innovative community practices for building resilience and promoting sustainable development, *Gender & Development*, *23*, 433-448.
- Eker, Y., & Yilmabaşar, M. (2018). Disaster resilient society with youth project of the civil defence organization aiming disaster risks reduction. *The International Archives of the*

*Photogrammetry, Remote Sensing and Spatial Information Sciences - ISPRS, 42(3W4),* 205-209.

- Radzi, F. (2021). Ratusan sukarelawan muda bersihkan rumah terjejas banjir di Sepang. Retrieved on 30 March 2022 from https://malaysiadateline.com/ratusan-sukarelawanmuda-bersihkan-rumah-terjejas-banjir-di-sepang/
- Fernandez, G., & Shaw, R. (2015). Youth participation in disaster risk reduction through science clubs in the Philippines, *Disasters*, *39*(2), 279–294.
- Finnis, K. K., David, M., Johnston, Kevin, R., Ronan, & James, D. W. (2010). Hazard Perceptions and Preparedness of Taranaki Youth. *Disaster Prevention and Management: An International Journal*.
- Fleming, J. (2013). Young people's participation where next? Child. Soc. 27, 484–495,
- Fothergill, A. (2017). Children, Youth, and Disaster. Oxford Research Encyclopedia of Natural Hazard Science. Oxford https://doi.org/10.1093/acrefore/9780199389407.013.2
- Frank, K. I. (2006). The potential of youth participation in planning, J. Plann. Lit. 20(4), 351– 371.
- Garg, C. V., & Sam, A. (2020). Engagement of national cadet corps (NCC) cadets in disaster risk mitigation under pandemic COVID-19: A case study of Tamilnadu, Puducherry and Andaman & Nicobar Islands. Impact: International Journal of Research in Applied, Natural and Social Sciences, 8, 15-24.
- Harakah Daily. (2022). Bina semula rumah mangsa banjir dalam masa tiga hari. Retrieved on 31 March 2022 from https://harakahdaily.net/index.php/2022/01/25/bina-semula-rumah-mangsa-banjir-dalam-masa-tiga-hari/
- IFRC. (2011). 'Why the World's Youth Are Key to Reducing the Impact of Disasters'. Retrieved 22 March 2022. https://www.ifrc.org/en/news-and-media/opinions-andpositions/opinion-
- Janicke-Bowles, S., Nayaran, A., & Seng, A. (2018). Social media for good? A survey on millennials' inspirational social media use. *Journal of social media in society*, 7(2), 120-140.
- Kumar, K. (2022). 'Here to serve': Floods put Malaysia youth party in spotlight. Retrieved on 30 April 2022 from https://www.aljazeera.com/news/2022/1/12/malaysia-youth-party-builds-new-brand-of-politics-in-weary.
- Leung, J. Y. S., Russell, B. D. & Connell, S. D. (2019). Summary for policymakers. https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15\_SPM\_version\_report \_L R.pdf.
- Lopez, Y., Hayden, J., Cologon, K., & Hadley, F. (2012). Child participation and disaster risk reduction, *Int. J. Early Years Educ. 20*(3), 300–308.
- Mitchell, T., Haynes, K., Hall, N., Choong, W., & Oven, K. (2008). The roles of children and youth in communicating disaster risk, *Child. Youth Environ.* 18(1), 254–279.
- Ramli, M. (2022). MB appreciates youth volunteers' contribution in post-flood recovery. Retrieved on 30 April 2022 from https://selangorjournal.my/2022/04/mb-appreciatesyouth-volunteers-contribution-in-post-flood-recovery/
- Muzenda-Mudavanhu, C. (2016). A review of children's participation in disaster risk reduction, Jamba, J. Disaster Risk Stud. 8(1), 1–6.
- Narksompong, J., & Limjirakan, S. (2015).Youth participation in climate change for sustainable engagement: Youth participation in climate change for sustainable engagement. *Review of European, Comparative & International Environmental Law,* 24(2), 171–181.

- Nifa, F. A., Lin, C. K., Rani, W. N., & Wei, O. J. (2018). A study on awareness of disaster risk reduction (DRR) among university students: The case of PETRONAS residential hall students. In AIP Conference Proceedings. AIP Publishing LLC. 2018; 2016(1), 020005.
- Octastefani, T., & Rum, M. (2019). Millennials'contribution in disaster risk reduction: Case study of tidal flooding in Semarang. *Jurnal Ilmu Sosial dan Ilmu Politik, 23*(1), 14-29.
- Osofsky, J. D., & Osofsky, H. J. (2013). Lessons learned about the impact of disasters on children and families and post-disaster recovery, in: A. Culp (Ed.), Child and Family Advocacy: Issues in Clinical Child Psychology, Springer, New York, NY.
- Pandve, H. T., Deshmukh, P. R., Pandve, R. T., & Patil, N. R. (2009). Role of youth in combating climate change. Indian *Journal of Occupational and Environmental Medicine*, 13(2), 105.
- Peek, L. (2008). Children and disasters: understanding vulnerability, developing capacities, and promoting resilience an introduction, *Child. Youth Environ.* 18(1), 1–29.
- Penrose, A., & Takaki, M. (2006). Children's rights in emergencies and disasters, *Lancet 367*, 698–699.
- Rahman, H. A. (2020). Youth and Disaster Management in Malaysia. *International Journal of Academic Research in Business and Social Sciences, 10*(16), 367–380.
- Regional Coordination Mechanism Group Asia Pacific Thematic Working Group on Youth United Nations Development. (2015). *Switched On - Youth at the heart of sustainable development in Asia and the Pacific*. New York: United Nations.
- Reza, A. H. (2022). Belia kampung bantu warga emas pasca banjir. Retrieved on 31 March 2022 from https://malaysiagazette.com/2022/01/12/belia-kampung-bantu-wargaemas-pasca-banjir/
- Ronan, K. R., Crellin, K., Johnsto, D. M., Finnis, K., Paton, K., & Becker, J. (2008). Promotingchild and family resilience to disasters: effects, interventions, and prevention effectviness, *Child. Youth Environ*, 18(1), 332–353.
- Ronan, Kevin, R., Eva, A., Briony, T., Victoria, A., Johnson, & David, M. J. (2015). Disaster Preparedness for Children and Families: A Critical Review'. Current Psychiatry Reports
- Roy, S., Pal, P. K., & Pradhan, K. (2014). Awareness of Rural Youth towards Disaster Management: A Gender Disintegrated Study. *Indian Res. J. Ext. Edu.* 14(1), 78-82.
- Ahmad, S. (2021). Kayuh kayak bantu mangsa banjir. Retrieved on 29 April 2022 from https://www.bharian.com.my/berita/nasional/2021/12/901545/kayuh-kayak-bantumangsa-banjir
- Savitha, A. G. (2021). KakiRepair and team salvage over 230 household appliances in Taman Sri Muda to help reduce landfill waste," Malay Mail. https://www.malaymail.com/news/life/2021/12/31/kakirepair-and-team-salvageover- 230-household-appliances-in-taman-sri-muda/2032221.
- Sukaimi, S. A. (2021). Lapan anak muda jadi wira 'tak didendang' selamatkan mangsa banjir. Retrieved on 31 March 2022 from https://www.utusan.com.my/terkini/2021/12/lapan-anak-muda-jadi-wira-takdidendang-selamatkan-mangsa-banjir/
- Tanner, T., Garcia, M., Lazcano, J., Molina, F., Molina, G., Rodriguez, G., & Seballos, F. (2009). Children's participation in community-based disaster risk reduction and adaptation to climate change, Partic. Learn. Act. (PLA): Commun Based Adapt Clim Chang, 60, 54–64.

- The Sun Daily. (2021). Taman Sri Muda flooding: neighbour hails 4 young men as heroes. https://www.thesundaily.my/local/taman-sri-muda-flooding-neighbour- hails-4young-men-as-heroes-KE8688927
- UN Office for Disaster Risk. (2018). Updates: "Students want more DRR education". Retrieved on 21 April 2022 from https://www.undrr.org/news/students-want-more-drreducationUN Office for Disaster Risk. Document and Publication: "Words into Action guidelines: Engaging children and youth in disaster risk reduction and resilience building" Retrieved on 21 April 2022 from

https://www.undrr.org/publication/words-action-guidelines-engaging-children-andyouth- disaster-risk-reduction-and

- UNDRR. (2021). Youth Forum for Disaster Risk Reduction. Retrieved on 30 April 2022 from https://rp-americas.undrr.org/event/youth-forum-disaster-risk-reduction
- United Nations International Strategy for Disaster Reduction (UNISDR). (2004). *Terminology: Basic Terms of Disaster Risk Reduction*. UNISDR: Geneva.
- Vicerra, M. P., Salvador, J. M. G., & Capili, Y. M. V. (2018). Disaster preparedness knowledge and action: Population development perspective. Asia Pacific Journal of Multidiscipline. *Research*, 6(61), 103-109.
- Walker, M. (2016). Flooding and resilience: the important role children and young people can play. *Foundation for Democracy and Sustainable Development*, 1-3.
- Wallemacq, P., Herden, C., & House, R. (2015). The Human Cost of Natural Disasters 2015 A Global Report, Centre for Research on the Epidemiology of Disasters, CRED.
- Wee, M. I., Nabilla, F. A., Foo, N. G., & Firdhaus, A. S. (2017). Awareness and attitudes towards sustainable development amongst higher education students in Penang, Malaysia. In: Leal Filho W, Azeiteiro UM, Alves F, and Molthan-Hill P(eds). Handbook of Theory and Practice of Sustainable Development in Higher Education. New York: Springer International Publishing, 49–64.
- Wong, N. T., Zimmerman, M. A., & Parker, E. A. (2010). A typology of youth participation and empowerment for child and adolescent health promotion, Am. J. Commun. Psychol. 46(1–2), 100–114.
- Zarekarizi, M., Srikrishnan, V., & Keller, K. (2020) Neglecting uncertainties biases houseelevation decisions to manage riverine flood risks. *Nat Commun*, *11*(1), 1–11.