Climate Change, Disaster, and Social Work in Indonesia

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Abstract

This paper discusses the notable disaster events caused by climate change in Indonesia and its impact on social problems and social work, respectively. As the fourth largest populous country in the world, Indonesia is considered to be the most disaster prone, given its high exposure to a range of natural and climatic hazards. Most disasters are caused by hydrometeorological and geophysical hazards. Hydrometeorological hazards have become a common and recurring disaster in this decade with severe flood occurrences and other hazards that are seen to be related to climate change. The impact of climate changes in Indonesia is expected to increase the threat toward food security, human health, water availability, biodiversity, and sea level rise. Cities in the coastal regions of Indonesia have a very high vulnerability to rising sea levels. It is feared that tidal floods will often occur in coastal areas, and this change will cause many fishermen to experience difficulties in catching fish. In the past 10 years, floods,

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landslides, and tornadoes are the dominant events in each year. The type of uncertain season is very influential on disasters that occur, such as the beginning of the rainy season to enter the beginning of the dry season, often floods, landslides, and tornadoes always occur. Conversely, in the dry season, forest and land fires become a scourge for the community. Therefore, social work plays an important role to disaster risk reduction caused by climate change.

Keywords

Climate change · Global warming · Disaster · Community · Resilience · Social work

Introduction

Indonesia extends from 91° 38′ 25.55″ west longitude to 144° 24′ 00″ east latitude and is located in the equatorial between 7° 44′ 35.11″ north latitude and 13° 55′ 59.99″ south latitude. It is located between the Pacific and Indian Oceans, as well as the continents of Asia and Australia. This country has an area of 820 million hectares, including around 200 million hectares of land. The five main islands of Sumatra, Java, Kalimantan, Sulawesi, and Papua make up one of the world's biggest archipelagic nations, with 13,466 islands of which only 6000 are inhabited. Lowland forest, upland forest, shrub, and seasonal crop on dry latitudes are the four biggest land cover regions among the 200 Mha. Indonesia is a democratic country led by President Joko Widodo, with a decentralized, multilevel administration structure consisting of 34 provinces and over 500 districts and towns. Indonesia's population is increasing. The results of the Population Census (SP2020) in September 2020 recorded a population of 270.20 million people. The number of residents resulting from the SP2020 is increased by 32.56 million compared to the results of the SP2010. With Indonesia's land area of 1.9 million km^2, the population density of Indonesia is 141 people per km^2. The average population growth rate per year during 2010–2020 was 1.25%, slower than the 2000–2010 period, which was 1.49% (Central Bureau of Statistics, 2020). The monsoon dominates Indonesia's climate (more than 50%), resulting in a degree of uniformity across the country. The rainy season lasts anywhere from 10 to 110 days (short) to 280 to 300 days (long), with rainfall ranging from 4115 mm to 640 mm. Furthermore, the region's extreme and troubling unpredictability is caused by substantial temporal variation along with climate changes. According to the National Disaster Management Agency, hydro-meteorological catastrophes account for more than 75% of all disasters in the country. Many large-scale climatic events impact rainfall variability in Indonesia, one of which is the El Niño Southern Oscillation (ENSO). El Niño is one of the factors that contribute to forest and land fires in the region. This occurrence is frequently linked to outbreaks of agricultural pests and illnesses. Floods and forest/land fires cost the economy 2.5 billion US dollars in 2016. In 2016, the cost of

repairing flood-damaged infrastructure amounted to 275 million US dollars. It can be said that El Niño is a fact of global warming (Hoegh-Guldberg et al., 2009).

Global warming has already had an impact on natural and human systems, according to the latest Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5 °C in 2018. As a result of global warming, many terrestrial and ocean ecosystems, as well as some of the services they supply, have already changed. Actions for adaptation and mitigation are already underway. Even if global warming is confined to 1.5 °C in the twenty-first century, sea level rise will continue beyond 2100. With 1.5 °C of global warming, climate-related hazards to health, livelihoods, food security, water supply, human security, and economic growth are expected to rise and would rise much more with 2 °C (Intergovernmental Panel on Climate Change, 2019). Global warming, climate change, and disaster events have been closely related and archived in many literatures. Environmental phenomena likely related to climate change include the following: increased temperature and increased frequency and/or duration of heat waves, increased heavy precipitation events, increased intensity and/or duration of drought, increased intense tropical cyclone activity, and increased sea level (Dore, 2005; Knutson et al., 2010; Rest & Newsome, 2015). Statistics related to natural disasters were simply unimaginable before. It is now counted every second that someone is homeless. When compared, the number of people who have lost their homes due to natural disasters is three to ten times greater than due to war and conflict. Every year, since 2016, an average of 26 million people have become homeless. This figure is equivalent to one person having to evacuate every second. In 2018 more than 17.2 million people were displaced by natural disasters in 125 countries and territories (Knowledge Center, 2020).

In Indonesia, the interplay of rising population, mostly uncontrolled urbanization, and economic growth in high-risk regions without appropriate consideration of the social and environmental consequences has resulted in significant catastrophe and climate-related vulnerability and risk. Increasing populations, environmental destruction, urbanization, and climate change contribute to an increase in disaster risk. Hydrometeorology disasters occur the most, affect the highest number of people, and cause the greatest economic losses, while geophysical disasters lead to the greatest number of deaths. Not to mention, this situation is exacerbated by conditions of poverty in this largest country in the Association of Southeast Asian Nations (ASEAN). Around 11% of the country's more than 17,000 islands still live below poverty line. To alleviate poverty, the Government of Indonesia projects economic development to reach at least 5% per year to reduce poverty under 4% in 2025 as mandated in the Act, among others "that every person has the right to obtain a decent and healthy life." Given the effects of climate change are beginning to be felt, Indonesia is still looking for a balance of development in the present and the future as well as poverty reduction priorities.

Although the impacts of climate change and disasters are interrelated, the role of social work in the issue of disaster risk and resilience to climate change has received less attention. Social work is currently not specifically linked to catastrophic climate change. However, social work has been practicing with various natural disaster issues.

Indonesia: Climate Change and Disaster Problem

In Indonesia, climate change is a major concern. It is one of the world's largest producers of greenhouse gases (GHGs), and it is suffering from the impacts of climate change. The important sectors affected by climate change in Indonesia are the coastal (marine and fisheries), agriculture, water resources, forest, special areas (urban/rural), and health. Coastal (marine and fisheries), agriculture, water resources, forest, special regions (urban/rural), and health are the major sectors in Indonesia affected by climate change. Climate change has had a profound influence on coastal areas and fisheries. Coral reefs thrive in temperatures ranging from 26 to 30 °C. However, a 1 °C to 2 °C increase in sea surface temperature (SST) above the mean annual value might cause coral bleaching.

The level of vulnerability is determined by the indicators that affect exposure, sensitivity, and adaptive capacity of the village across the nation. The diversity of these factors changes over time in line with the implementation of development activities and adaptation efforts. The level of exposure, sensitivity, and adaptive capacity levels is mirrored by the biophysical and environmental conditions as well as socioeconomic conditions. Assessment of vulnerability at national level indicates that about half of the villages in Indonesia fall under the category of medium to very high vulnerabilities. Villages with high to very high vulnerability levels are mostly located in Papua Province. However, the Government of Indonesia through the Ministry of Environment and Forestry has developed Climate Village (Kampung Iklim) to increase community response and resilience to climate change. The program evaluates the community initiatives on combating climate change by recapitulating the community actions that contribute to GHG emission reduction and local climate change adaptation and mitigation.

Vulnerability assessment on sectoral basis has also been done by many agencies focused in specific locations (Table 1). Most of the studies indicated that most of the sectors are vulnerable to the impact of climate changes due to unfavorable socio-economic and environmental conditions.

The greatest challenge facing mankind today is climate change. Biophysical processes, human health, agriculture, and socioeconomic well-being would be affected. These results are not uniformly distributed; the disadvantaged would be disproportionately impacted, especially in developed nations. Indonesia is one of the countries most at risk from environmental threats and the consequences of climate change. The risk effects of local environmental degradation, global climate change, rapid urbanization, coastal growth, and socioeconomic inequality are increasingly being felt, not only in large cities, such as Jakarta, but more and more in Indonesia's smaller cities and rural areas. The 2004 Indian Ocean tsunami has shown that Indonesia's catastrophe potential is high, but it has also led to concerted academic, practical, and political action to minimize such risks (Djalante et al., 2017). There have been comprehensive reports, such as those on climate change-related disasters in Indonesia (Bohensky et al., 2013; Djalante et al., 2017; Takama et al., 2017; Tickamyer & Kusujiarti, 2020).

Indonesia is one of the most climate-vulnerable countries. Because of its geographic location on the equatorial line, halfway between the Indian and Pacific seas,

Table 1 Vulnerability assessment by sector in specific locations in Indonesia

Sector	Locations	Vulnerability assessment
Agriculture	Bali island	Assessing vulnerability of the rice farming system to climate change. Areas with high vulnerability are in the northeast of Bali
	Malang-East Java and North Sumatra	Most of lowland rice areas are highly vulnerable to climate change. In 2030, the vulnerability will increase
	Garut to Indramayu, West Java	Factors that have high influence in causing vulnerability of supply chain for the food crops (corn and rice) are family income sources and agricultural workers, and also ratio of rice and maize production per area planted and the ratio of food to the area of agricultural land area
Health	Bali, DKI Jakarta, East Java, and Central Kalimantan	In the period of 2006–2012, the vulnerability of these areas to dengue and malaria has increased. Climate change is likely to have an impact on the changing patterns of dengue fever and malaria incidence
Watershed sector	DAS Serayu in Cilacap and Banyumas of West Java	About 76% of the downstream watershed located in Cilacap and between 21% and 33% of the downstream of watershed located in Banyumas (subzone Klawing, Tajum, and Serayu Downstream) are very vulnerable to flood impact
Coastal	Coastal city of Tegal	Most of kelurahan in Tegal city are vulnerable to impact of sea level rise (robs). Most of communities in the vulnerable areas are relatively poor and will be highly impacted by the climate change
	Semarang City, Central Java	Kelurahan with high vulnerability situated near the coast with high rate of land subsidence. Vulnerability level of some village in 2030 will increase to high vulnerable such as Tanjung Emas, Bandarharjo, and Kemijen. Large area of the kelurahan will be inundated and damaged infrastructure
Vulnerable group (children)	Surabaya, East Java	Areas with high vulnerability are mostly located in the north of the city of Surabaya. Factors causing the vulnerability are lack of disaster preparedness, limited common facility, and low family welfare
Lake ecosystem	Solok, West Sumatra	Ecosystems of Singkarak Lake in West Sumatra are vulnerable to the impact of climate change. The change in rainfall pattern and temperature will reduce the water level in the lake, and this will affect population growth of fish particularly the endemic species such as “ikan bilih” which is one of the main sources of community income surrounding the lake. Continuity of electricity

(continued)

Table 1 (continued)

Sector	Locations	Vulnerability assessment
		production from the lake will also be disturbed due to the increasing frequency of extreme rainfall. Floods will be more frequent in the downstream area of the Singkarak lake

Source: Ministry of Environment and Forestry (2017)

the nation has previously experienced strong and severe El Niños. Because of its physical characteristics as low-lying coastal islands, the nation, like other tiny island republics, is highly vulnerable to floods and sea level rise. The country also protects some of the Coral Triangle's most endangered species and tropical rain forests, which are threatened by climate change, owing to ocean acidification and forest fires. At the same time, the country is a major emitter of greenhouse gases. As home to 260 million people, Indonesia is one of the world's largest developing economies and emitters of greenhouse gas (GHG) emissions. Unlike China and India, 38% of the total emissions of the country come from peatlands (with the remainder caused by fires), and 35% are caused by land-use changes. This will continue to represent significant environmental degradation and health costs, a decline in agricultural production and material damage in a country with the third largest tropical forests in the world (Hiroyukiishibusawaa & Anyywahyuni, 2018). Climate change is related to the warmer temperature of the earth. The surface temperature of the planet will continue to increase for another 20 to 30 years, even with the greatest decrease of carbon emissions currently considered. The related changes in rainfall patterns will contribute to a worldwide increased risk of flooding, including in Indonesia, which is frequently exposed to a range of hazards for climate-related disaster. Over 60% of Indonesia's districts are exposed to a high risk of flooding (The World Bank, 2019). Indonesia needs the greatest adaptation effort, along with other countries related to disasters (Willner et al., 2018) (Fig. 1).

Using the Central Bureau Statistics (2016 and 2055) population figures in combination with the Aqueduct River Floods Hazard Maps, the maps demonstrate the combined impact of urban growth and climate change. Very coarse rainfall-runoff grid cells of approximately 55 by 55 km are used in flood maps, limiting their usefulness for smaller islands and small rivers. The results of the future flood hazard maps are based on substantial uncertainty about the impact of climate change on Indonesia's peak precipitation levels. All residents living in urban flood zones are exposed. Unplanned or poorly planned urbanization has therefore increased the vulnerability of cities to natural hazards, particularly floods and earthquakes, since large-scale urban growth is often planned and controlled inadequately (The World Bank, 2019).

Indonesia is the largest archipelago in the world with great geographic, demographic, and diversity in social, cultural, and biological terms. Its 17,162 islands host the fourth largest population in the world; numerous ethnic, linguistic, and religious groups; and a vast number of Muslims. Given its pivotal geographic position in the

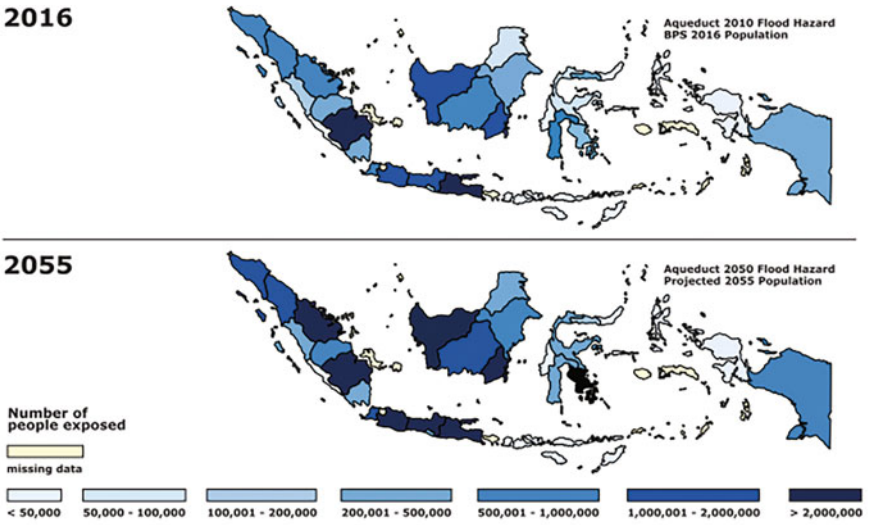

Fig. 1 Estimation of the number of people exposed to flood hazard. Source: The World Bank (2019)

global ocean conveyor belt (thermohaline circulation), this largest archipelagic country has extensive tropical rainforests with high biodiversity, high carbon stock values, and energy and mineral resources. Nevertheless, Indonesia, especially in low-lying areas in the archipelago, is vulnerable to natural disasters that are likely to be intensified by climate change. Indonesia therefore considers robust climate change adaptation and mitigation efforts focused on land and ocean as a key strategic factor in achieving climate resilience in food, water, and energy (Ministry of Home Affairs, 2020; Mma et al., 2017; Tickamyer & Kusujiarti, 2020). Located in the Pacific Ring of Fire with 127 active volcanoes, Indonesia also faces high seismic, tsunami, and volcanic risks. This geographic location makes Indonesia one of the most prone countries in the world to natural disasters, with major implications for the children of the country (World Bank, 2019).

Indonesia experienced 1800 disasters in the period 2005–2015, with more than 78% of hydrometeorological disasters occurring (11,648) and only about 22% (3810) of geological hazards occurring. Floods, heavy waves, land and forest fires, drought, and extreme weather are parts of hydrometeorological disasters. As for the often-occurring geological disaster group, these are earthquakes, tsunamis, volcanic eruptions, and landslides. The trend of total disaster for both types of groups is relatively increasing. The effects of climate change contribute to hydrometeorological disasters. With a high frequency of events, this group of disasters has a very large impact, especially on the economic and environmental sectors, both direct and indirect impacts. Human activities also contribute to worsening environmental conditions, such as forest encroachment for plantations and settlements or development activities that affect the ecosystem and ecology in buffer zones. The number of

disasters caused by geological factors is not too significant compared to the number of disasters caused by hydrometeorological factors. Even so, geological disasters, especially earthquakes and tsunamis, in fact cause quite large impacts both in terms of casualties and economic losses. The most recent data shows that through January–December 2020, the country experienced 2925 disasters and still dominated by hydrometeorological natural disasters, including flood, flash floods, landslides, tornadoes, drought, and forest and land fires (National Disaster Management Authority, 2016, 2020). This environmental threat is being compounded by environmental degradation and the climate crisis. Indonesia is therefore ranked 17th out of the 191 countries in index for risk management (INFORM) 2019, a global hazard and risk exposure index (INFORM, 2020).

Vulnerable Population in Climate-Related Disaster in Indonesia

Extreme natural events often hit the poorest and most vulnerable members of society hardest, including women, children, and elderly. Climate-related extreme weather events are increasing in frequency and intensity in many places, forcing more and more people to morbidity and mortality. The impact of climate change to vulnerable population and understanding vulnerability to foster resilience are well documented (Alahmad et al., 2020; Companion & Chaiken, 2018; Leyva et al., 2017; Mearns & Norton, 2010; Thow & De Blois, 2008). Indonesia has also reported climate change disaster events that affect vulnerable populations. As a consequence of climate change, there has also been an increased poverty among women. They are vulnerable since many women work in the informal sector, such as agriculture or plantations, by being casual daily workers or assisting their husbands without working with plantation companies. This situation leaves women vulnerable to economic impacts, as natural disaster occurred. Women who work in this field will lose their livelihoods. Furthermore, the status of women who are not family decision-makers is still an obstacle to the realization of various economic initiatives to increase their families' alternative sources of income. Women as family heads are experiencing the same problem. There are about 9.9 million households headed by women who are adversely impacted by natural disasters, according to the Central Bureau of Statistics in 2017 (Badan Kebijakan Fiskal, Kementerian Keuangan, 2020). The coastal urban population, especially coastal women, is a group that is also vulnerable to climate change. Fisherwomen and their families face severe weather, storms, and tides as threats. Women have various circumstances, challenges, and initiatives to cope with climate change, which are profoundly affected by women's closeness to nature. This situation also has a major impact on the lives of women, especially fisherwomen, where extreme weather also prevents fisherwomen, who are very dependent on marine resources, from getting their livelihoods (Mongabay, 2017).

Children are also a vulnerable group in Indonesia, apart from women; while major advancements in child welfare have been made in Indonesia over the past 50 years, unprecedented environmental changes caused by climate change have significant impacts on children. Children, primarily because of their limited ability

to rescue themselves, are more at risk of death or injury from natural disasters than other populations. Around one in three people affected were children during the 2018 Lombok and Central Sulawesi earthquakes (665,000). The largest number of deaths is found in the population of children and adults over 50 years of age during the Indian Ocean tsunami in 2004. In flood events, this higher risk also applies; children and women are more likely to encounter floating, even in shallow water. Apart from that, natural disasters result in children losing their parents. It is reported that as a result of the 2004 catastrophic events in Aceh, 150,000 children were orphaned and around 2500 children were placed in various care facilities. Natural disasters cause deep trauma and emotional stress on children that must be overcome (UNICEF, 2020).

Urbanization is also a factor influencing vulnerable population, including children, women, and elderly, to face disasters. More than half – 55% or 135 million people – of Indonesia's population now live in cities. However, the most vulnerable (slum dwellers, street children, women, elderly, etc.) are affected by the environmental problems in the cities, such as air pollution. Air pollution is a major concern in Indonesia today, and this condition causes 50% morbidity in all parts of Indonesia. Several studies show that air pollution is connected to lung and respiratory health problems. The acute impact of air pollution due to smoke from forest fires in Sumatra, Indonesia, in 2015 showed an increase in respiratory symptoms by 71.4% and decreased lung function by 72.6%. A study in 2015 found that the prevalence of chronic obstructive pulmonary disease (COPD) in nonsmokers in Indonesia was 6.9%. One of the main factors in COPD nonsmokers in Indonesia is exposure to indoor and outdoor air pollution. In 2002, the WHO estimated COPD deaths related to the use of solid fuels (for populations over 30 years old) in Indonesia around 12,160 people. Regarding data on air pollution and lung cancer in Indonesia, a study in Persahabatan Hospital and Dharmais Hospital in Jakarta showed that 4% of lung cancer cases were related to air pollution in 2013 (Susanto, 2020). Based on the most current data (Badan Pusat Statistik, 2019), Indonesia's elderly are also scattered in urban areas caused by air pollution with a higher number in urban areas than in rural areas (52.80% compared to 47.20%). Morbidity and mortality in Jakarta related to air pollution is also a major concern. Heat-related mortality becomes more severe with urban expansion in Jakarta, a home for 10 million residents in 2015.

Again, climate change also affects the lives of the older adults. Older adults are vulnerable to climate change-related health impacts that normal changes in the body associated with aging, such as muscle and bone loss, can limit mobility. They are also more likely to have a chronic health condition, such as diabetes and disability, that requires medications for treatment. Overall, climate change and disaster have been impacting to the elderly quality of life (QoL). In their case study regarding the quality of life among the elderly residing in the mountain and high-risk area of the earthquake disaster in Sukamanah Village in West Java, Indonesia, Fahrudin and Yusuf (2018) found that the mean QoL score was 70.1, SD = 14.1 with a median score of 69. The score ranged from 42 to 116. Most of the subjects had QoL score in the range of 61 to 70, followed by 25% in a score range of 51 to 60. Poor QoL was seen among those who were unemployed and those unable to work. Older adults

with low education or illiterates were found to have a low QoL compared to the literates ($p < 0.001$). Multiple regression analysis found that variables such as age, sex, marital status, occupation, and earthquake experience were strongly associated with QoL. This study has implications for the social work practice model in the high-risk earthquake disaster area for improving the quality of elderly life.

Role of Social Work in Climate Change and Disaster

The complexity problems in hazards, disaster, climate change, and social problems need multi-stakeholder preparedness, respectively. Mitigation and adaptation of climate change and risk disasters need attention and participation from any discipline and profession including social work. The critical importance of disaster risk reduction in protecting lives and livelihoods in Indonesia is determined alternatively by social works in handling people affected by disasters. Disaster has common immediate and medium- and long-term problems and needs. Experiences from various countries throughout the world suggest a range of helping roles and tasks that social work is suited for. A social work professional has particular expertise in understanding and addressing the immediate and medium- and longer-term effects of loss on individuals, families, and communities affected by a disaster. Social workers are found in a range of positions including casework, community development, policy and planning, and management. The social work profession has a commitment to people where social welfare is one of its basic principles. Disaster is one area where social work gives a lot of attention. The explanation of disaster and its aftermath in the previous section testifies to the need for social workers to be involved in disaster management. Fahrudin (2005) states that disaster management in Indonesia consists of three term as follows; pre-disaster (mitigation, advance preparedness), disaster (acute responses to events), and post-disaster (recovery and rehabilitation to psychosocial effects). It has become a convention to consider four distinct stages, i.e., mitigation, preparedness, response, and recovery. Therefore, the role of social workers in terms of climate change and disaster is also in four stages, such mitigation, preparedness, response, and recovery. A key to social work intervention is to identify, assess, and reduce disaster risks. The said act is also to reduce socioeconomic vulnerability to disasters and address environmental hazards and other hazards that may create vulnerability (Fahrudin, 2016).

A part of the social work mandate is to deal with environmental concerns such as climate change. Supporting marginalized and disadvantaged persons and groups; the well-being of individuals, families, and communities; and, ultimately, social justice and social change must also be part of the job (Cumby, 2016). A social worker must also comprehend the group along with areas of vulnerable population. If social workers do not understand the vulnerable groups in these areas, their capacity for adaptation, the likely social outcomes, and planning goals to build community and individual resilience and foster sensitive social support for those most affected by climate and environmental disasters, will lead to misunderstanding of climate change predictions (Alston, 2015).

Undeniably, social work can play an important and active role in managing disaster problems and needs during and after disasters. Social work intervention can be done by social work administration and can be managed before, during, and after disasters. In most types of disaster, the immediate and short-term problems and needs are practical and technical. The very essential requirements in this stage are speed and coordination of responses. Like all other responsible citizens, social workers have a responsibility to mitigate the harm that climate change will cause (and is already causing) and to stand in solidarity with those who will be most affected around the world (Booth, 2019). Social workers can organize and coordinate the process of helping, especially during the first 3 days, which are regarded as crucial in finding survivors alive, and providing technical equipment and expert personnel. Again, climate change, disaster, and social work are related to each other. The professional commitment to underserved and vulnerable populations necessitates that social workers are knowledgeable about climate change and its effects on people. The environmental perspective of social workers should be inclusive of the natural environment. Social work profession has an important role to play in helping people understand the issues, promoting sustainable energy production and consumption, mobilizing people to protect their future through community social work, and proposing solutions in greenhouse gas emission reduction to tackle climate change, especially in Indonesia context. In the role of social workers related to disaster management in Indonesia, Fahrudin (2012) concluded that before Aceh's tsunami in 2004, professional social workers in Indonesia had little experience with catastrophes. Short-term training had been organized by UNICEF-Indonesia in the aftermath of the earthquake and tsunami, and a small number of social workers were active in psychosocial intervention for disaster victims, particularly children. In preparation for potential disasters and/or in response to actual occurrences, far fewer social workers were involved. They may be members of central or local government teams, as well as national relief organizations, and their responsibilities may include professional accountability in some cases. Indonesia has a large number of social workers. Most social workers in Indonesia are involved in administrative work rather than focusing on the psychosocial impact of disasters. This is because few professional social workers have received training in critical incident stress management (CISM), crisis intervention, mediation, defusing, debriefing, counseling, and psychosocial therapy – the primary skills needed for disaster social work intervention (Fahrudin, 2012). The majority of social workers have had training in public and private universities but more in social policy and administrative work. Social workers, for example, are mandated to provide appropriate professional services in public emergencies, yet few social workers have the specific training/skills needed to serve as relief or crisis workers. Many undergraduate and graduate programs in social work in Indonesia spend little time teaching the critical prevention and crisis intervention techniques needed for relief work and emergency situations (Fahrudin & Yusuf, 2021).

Indonesia definitely needs the presence of very responsive and social workers specialized in disaster management. In 2016, there were more than 1.3 million natural disaster victims who needed psychosocial support services. The Ministry

of Social Affairs encourages certification for social workers in disaster management, to increase the effectiveness of social assistance and the psychosocial recovery of communities exposed to disasters. The number of social workers needed to be placed in one district/region in the year 2019 is around 25 thousand social workers (Republika, 2017). There is little evidence about social workers dealing with disaster management caused by climate change in Indonesia. To cope with problems on the vulnerable population such as children affected by climate-related disasters, the situation highlighted is on poverty where factor contributed to lack of child education, trafficking, and poor health. For social workers, the size and diversity of Indonesia can prove challenging. While the Ministry of Social Affairs (MoSA) oversees child protection on a national level, practitioners also interact with officials on a provincial, district, and village level (O'Leary et al., 2019).

Conclusion

The human effects of global environmental change is a question of social justice and human rights that is increasingly concerned with social work. It is a major challenge for the profession to address and is necessary for the growth of future and present social workers to establish a social response to this problem. Indonesia is a region vulnerable to catastrophes. Its location on the equator and in the shape of an archipelago create a high potential for hydrometeorological disasters of various kinds, such as floods, flash floods, droughts, extreme weather (tornadoes), extreme waves and abrasions, as well as land and forest fires. The climate change phenomenon also raises the probability of hydrometeorological catastrophes. With a large number of disasters occurring each year, the social work profession plays an important role during predisaster, emergency response, and post-disaster periods.

Cross-References

- ▶ Climate Change and Social Work
- ▶ Climate Change and Vulnerable Group
- ▶ Disaster Risk Reduction
- ▶ Global Environmental Change
- ▶ Hydrometeorological Disasters
- ▶ Impact of Climate Change

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