

# Role of Climate Change and Extreme Weather Affect Families and Communities in Developing Nations

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## Abstract

Climate change and extreme weather have had a devastating impact on families and communities in developing nations. These effects include increased poverty and food insecurity, displacement, and health impacts. Families and communities are particularly vulnerable due to limited resources and infrastructure to cope with climate change and extreme weather events. To mitigate these impacts, families and communities must have access to financial resources and tools to adapt to climate change and extreme weather. Governments, international organizations, NGOs, and other stakeholders must increase their efforts to support communities in developing nations in climate change adaptation and resilience. Moreover, the need for more research and data on how climate change and extreme weather affect families and communities in developing nations must be addressed to ensure that sustainable solutions can be implemented.

## Keywords

Climate Change, Extreme Weather, Developing Nations, Families, Communities.

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## INTRODUCTION

Climate change and extreme weather have a large impact on families and communities in developing nations. As climate change increases global temperatures and causes more extreme weather, families and communities in developing nations are particularly vulnerable to the impacts of these changes. In many countries, families and communities rely on natural resources for their livelihoods, and the changing climate can have a devastating effect on their ability to provide for themselves. Furthermore, extreme weather events can cause destruction of infrastructure, displacement of populations, and loss of life, further exacerbating the vulnerability of these populations.

Climate change and extreme weather events have had significant impacts on families and communities in the developing world. These impacts can range from reduced agricultural production, limited access to clean water, population displacement, health risks, economic losses, and other repercussions. As the global climate continues to warm, the frequency and intensity of extreme weather events are likely to increase as well. This can further exacerbate existing economic and social disparities between different nations, making families and communities in the developing world particularly vulnerable to the effects of climate change and extreme weather.

Extreme weather events can have a variety of impacts on families and communities in the developing world [26]. These can include decreased agricultural production due to changes in temperature and precipitation patterns, reduced access to clean water due to drought and floods, population displacement from extreme weather events, increased

exposure to vector-borne diseases, and economic losses from destroyed infrastructure. Additionally, families and communities in the developing world may be less able to cope with the impacts of climate change and extreme weather due to limited resources and infrastructure.

## HOW CLIMATE CHANGE AFFECTS DEVELOPING NATIONS

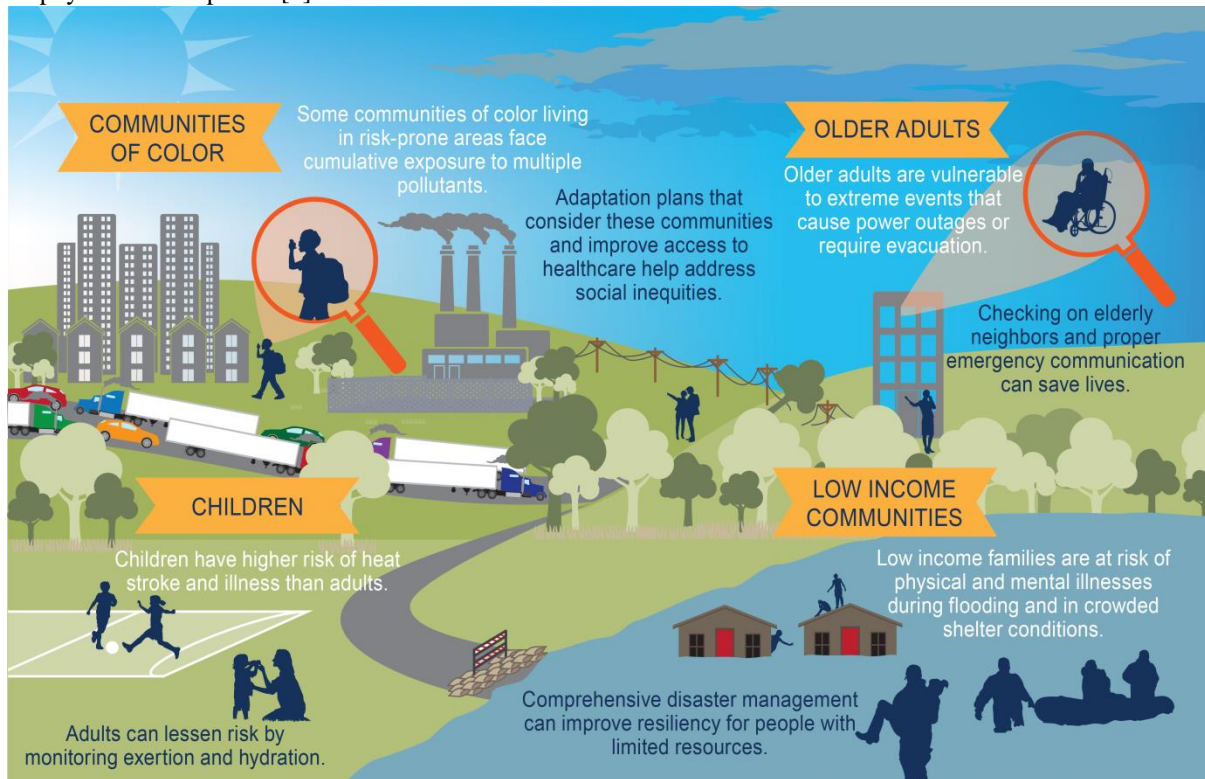
These nations are often less equipped to deal with the impacts of climate change due to limited economic resources and infrastructure. In addition to the direct physical impacts of extreme weather events and variability, climate change also has serious implications for social and economic development.

These events can also increase the prevalence of water-borne and vector-borne diseases, as well as food insecurity. In addition, sea level rise is likely to cause significant displacement of coastal communities in some developing nations, as it renders much of the land uninhabitable [9]. In addition to the direct impacts of climate change, it can also have serious implications for economic development. Changes in rainfall patterns can lead to reduced agricultural yields, which can have serious knock-on effects on food security and economic growth. In addition, the increased frequency of extreme weather events can lead to increased spending on relief and reconstruction, diverting resources away from other areas of development.

Finally, climate change can also have serious implications for social development. Increased droughts and floods can lead to displacement of communities, which can have serious impacts on social cohesion and integration [27]. In addition, extreme weather events can lead to increased migration,

which can put pressure on already fragile host communities. Overall, climate change is having a devastating impact on developing nations, with serious implications for economic, social and physical development [8]. It is essential that these

nations have access to the resources and support necessary to enable them to respond to and mitigate the effects of climate change.



**Figure 1:** Overall details of climate change  
(Source: Froese et al. 2019, p.54 [8])

Climate change is having a profound impact on developing nations around the world. With rising temperatures, more frequent and intense sea level rise, the effects of climate change are already being felt in many of the world's poorest countries [25]. The most immediate and tangible impacts of climate change on developing countries are related to extreme weather events, such as floods and droughts. These events can have catastrophic effects on local communities and families. For example, floods can wipe out crops, contaminate drinking water, or cause landslides that bury homes. Droughts can lead to crop failure and water scarcity, while intense heat waves can lead to extreme heat stress and heat stroke.

For example, farmers in many developing countries are now dealing with decreased crop yields due to changing climatic conditions [7]. This can have an especially severe impact on the incomes of small-scale farmers, who are often unable to afford the necessary changes to their farming practices in order to adapt to the changing climate. Finally, climate change is also having an effect on the health of individuals and communities in developing countries. As temperatures rise, heat-related illnesses become more common. In addition, changing weather patterns can lead to water shortages and an increased risk of water-borne illnesses. Overall, climate change is having a significant and negative impact on developing countries around the world.

This is why it is so important to continue to work towards reducing emissions and developing mitigation strategies that can help to protect the most vulnerable countries and communities.

### Heat Stress

Climate change is having a devastating effect on developing nations, especially those in the Global South [28]. These extreme weather events can have a devastating impact on families and communities in developing nations, as they are often ill-equipped to cope with their impacts. Heat stress is one of the most significant impacts of climate change on families and communities in developing nations. With rising global temperatures, extreme heat waves are becoming more frequent and intense, resulting in increased mortality and morbidity.

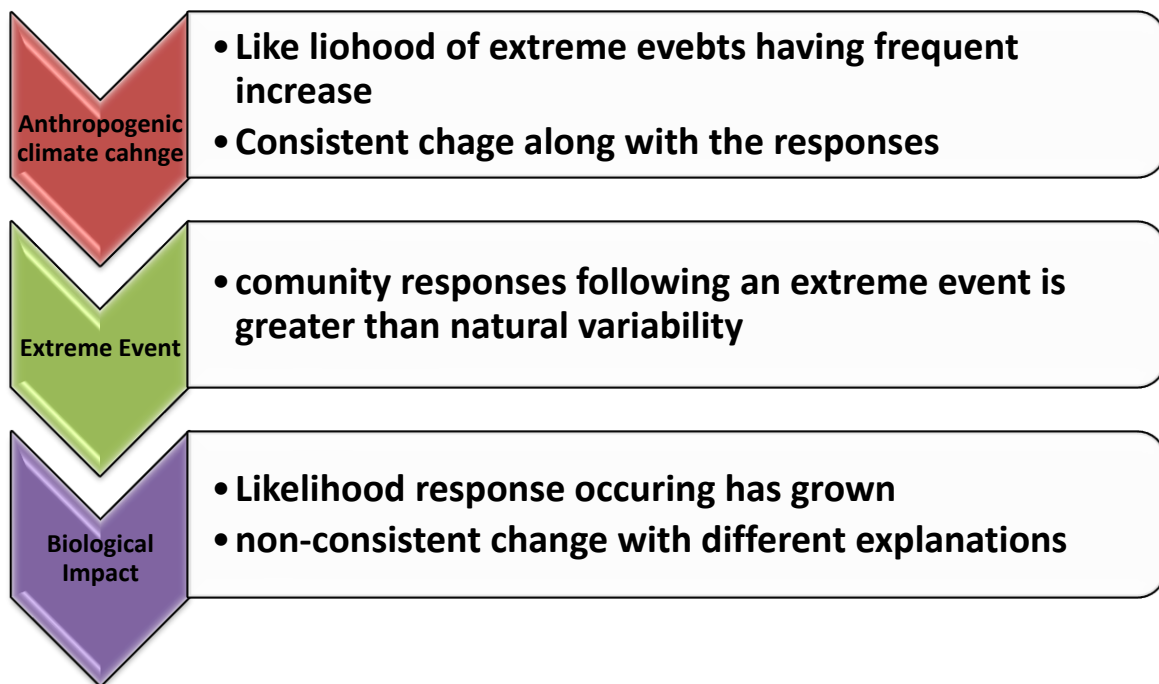
Heat stress can cause physical and mental health problems, such as heat exhaustion, heat stroke, dehydration, and even death. It can also lead to economic losses, as those affected may be unable to work or perform their daily activities. In addition, extreme heat can cause crop losses, reducing food security and leading to malnutrition [6]. Floods and droughts can also have a major impact on families and communities in developing nations. Floods can cause displacement and destruction of homes, as well as the spread of disease. Droughts can lead to water shortages, crop losses, and even famine. Both floods and droughts can have a devastating

effect on the economy, as people are unable to work or produce food. Finally, extreme weather events can lead to increased poverty and inequality.

As people are unable to work or produce food, their incomes may decrease, leading to increased poverty [24]. This can have a cascading effect, as people are unable to access basic necessities, such as healthcare and education. In addition, those affected by extreme weather events may be unable to access adequate disaster relief, leading to increased inequality. Overall, climate change and extreme weather events are having a devastating effect on families and communities in developing nations. Heat stress, floods, and droughts can all lead to increased mortality and morbidity, economic losses, and increased poverty and inequality. It is

therefore essential that governments of developing nations take action to mitigate and adapt to the impacts of climate change and extreme weather events.

As temperatures rise, people are exposed to extreme heat and humidity, which can cause serious health problems, including dehydration, heat exhaustion, and heat stroke [5]. This can be especially dangerous for children and the elderly, who are more vulnerable to heat-related illnesses. In some cases, extreme weather events like heatwaves have caused fatalities. In addition to the physical health impacts, heat stress also affects mental health, with people feeling anxious, irritable, and depressed due to the uncomfortable environment. This can affect family dynamics, with members of the household feeling frustrated and overwhelmed.



**Figure 2:** Major steps of biological impact  
(Source: Made by the author)

In addition to heat stress, climate change and extreme weather can also affect communities in developing nations through increased flooding and drought. Flooding can lead to displacement, as people are forced to leave their homes, and can also cause damage to infrastructure and crops, resulting in economic losses. Drought can also have serious consequences, including reduced access to clean water, food insecurity, and damage to crops, as well as increased risk of wildfires and air pollution. All of these impacts can have a significant impact on families and communities in developing nations, making it difficult to meet basic needs and build a secure future.

### Extreme Weather Events

Climate change has had a profound impact on families and communities in developing nations. Extreme weather events like floods, droughts, wildfires, and hurricanes can have devastating consequences for those who are most vulnerable. These events can cause displacement, loss of livelihood, and

death, and can put tremendous strain on economies and resources, leading to poverty and inequality [4]. In the most extreme cases, the worst effects of climate change can cause whole communities to be wiped out.

Extreme weather events can also cause infrastructure damage and leave communities without access to basic services such as clean water and electricity. This can lead to health problems such as water-borne diseases, malnutrition, and other health issues. In addition, extreme weather can increase the risk of displacement and migration, making it difficult for families to stay in their communities. This can have a long-term impact on a community's ability to develop and thrive.

In addition, climate change can have an indirect effect on communities in developing nations by increasing the risk of conflict and displacement. As temperatures rise and weather becomes more unpredictable, resources such as food and water become scarce, leading to competition and even

violence. This can lead to further displacement and hardship for those affected.

Overall, climate change and extreme weather events can have serious impacts on families and communities in developing nations, leading to displacement, poverty, and even conflict [1]. It is essential that governments and international organizations take steps to address the root causes of climate change and provide assistance and resources to those most impacted by these events.

### Water Stress

Climate change is causing extreme weather and increasingly erratic rainfall patterns in developing nations, leading to water stress. This is having a major impact on families and communities in these countries, as access to clean water for drinking, cooking, bathing, and other basic needs is becoming increasingly scarce [23]. In addition, water shortages can lead to the loss of crops and livestock, which can cause food insecurity, poverty, and malnutrition. Climate change is also leading to coastal flooding, heat waves, and other extreme weather events, which can cause displacement, loss of homes, and other economic and social disruptions.

Climate change, along with extreme weather, is having significant impacts on families and communities in developing nations, particularly in areas where water resources are already scarce [2]. As temperatures rise, water stress increases, leading to more frequent and severe droughts and floods. This impacts agricultural production and can lead to food and water scarcity. This can lead to increased poverty, health problems, and loss of livelihoods, affecting families and communities for years to come. In response, developing nations are increasingly looking for ways to adapt to the impacts of climate change and extreme weather, such as investing in better infrastructure and drought-resistant crops.

Countries of contribution	Agriculture	Industry	Services
Low Income countries	51	18	21
Middle income countries	23	39	41
High income countries	3	29	62

**Table 1:** Contribution of different countries  
(Source: Made by the author)

As temperatures rise, so does the amount of water stress. This means that in many developing countries, resources for clean drinking water are scarce and are becoming increasingly difficult to access [3]. This can lead to water-borne illnesses, malnutrition, and economic hardship. In addition, extreme weather events like floods, storms, and droughts can cause damages to infrastructure, crops, and homes, further exacerbating poverty and hunger. These events can also make areas more vulnerable to diseases and create displacement among affected populations. Families and communities in developing nations are often the most

affected by the impacts of climate change and extreme weather events, as they lack the means to prepare and adapt. This can leave these populations in an even more vulnerable state, with limited access to resources and support.

Extreme weather events, such as floods, droughts, and heatwaves, have significant impacts on families and communities in developing nations, where people may have limited access to resources and infrastructure. Climate change exacerbates these impacts, as extreme weather events become more frequent and intense. Families and communities can suffer from a range of impacts, such as reduced crop yields, disruption of livelihoods, and increased disease risk. In some cases, extreme weather can lead to displacement, as families are forced to leave their homes in search of better resources or safety. These impacts can cause significant hardship, poverty, and food insecurity, as well as physical and mental health problems [20].

### IMPACT ON FAMILIES AND COMMUNITIES

Climate change and extreme weather have a huge impact on families and communities in developing nations. Climate change, such as rising temperatures and more frequent and intense storms, can lead to more frequent and longer-lasting droughts, heat waves, floods and other extreme weather events. These extreme weather events can have devastating implications for families and communities in developing nations, as they often lack the resources to cope and recover from the impacts.

For example, extreme droughts can lead to crop failure, leading to food insecurity and famine. This can have a devastatingly long-term impact on families, as they are unable to produce enough food to feed their children. Additionally, floods and other extreme weather events can lead to displacement, as families are forced to leave their homes and relocate to safer areas [11]. This can be especially devastating for communities as they lose their homes, livelihoods, and social networks.

Climate change and extreme weather can also lead to an increase in health problems, as polluted air and water can cause respiratory illnesses, diarrheal diseases, and other illnesses. This can have a huge impact on families, as they may not have the financial means to access medical care [22]. Overall, climate change and extreme weather can have a huge and devastating impact on families and communities in developing nations. Without adequate resources and support, these families and communities can be left without the resources to cope and recover from the impacts.

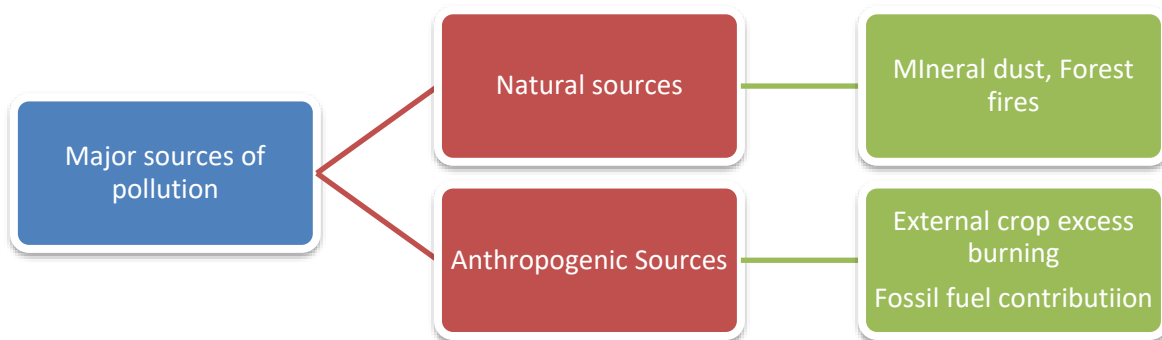
Climate change and extreme weather can have a devastating impact on families and communities in developing nations. These communities are often the most vulnerable and least prepared to cope with the direct and indirect consequences of climate change and extreme weather. Climate change can lead to more extreme weather events such as floods, droughts, and hurricanes, all of which can have devastating impacts on families and communities in developing nations [19]. These events can lead to



displacement, food insecurity, and economic disruption. In addition, these events can also cause psychological distress, affecting families' sense of safety and security.

In addition, extreme weather can cause physical damage to infrastructure, making it difficult for communities to access basic services such as healthcare, education, and clean water. Finally, climate change and extreme weather can lead to increased competition for land and resources, which can further exacerbate conflict in vulnerable communities. This can further undermine social cohesion, potentially leading to further displacement and disruption. Overall, climate change and extreme weather can have devastating impacts on families and communities in developing nations, leaving them vulnerable and less able to access basic services and support systems.

Climate change and extreme weather have an immense impact on families and communities in developing nations. These changes can cause disruption to food production, leading to food insecurity and malnutrition [18]. This can result in increased poverty, as families and communities struggle to cope with the effects of the changing climate. Additionally, extreme weather events can result in displacement or destruction of communities and homes, leaving people without a secure place to live. This can lead to further poverty and vulnerability as individuals struggle to rebuild their lives. Climate change can also lead to increased water scarcity, as droughts become more frequent and water sources become polluted or contaminated. This can lead to water-borne diseases, which can cause further health complications in families and communities.



**Figure 3: Major sources of pollution**  
(Source: Made by the author)

### DISPLACEMENT AND MIGRATION

Climate change and extreme weather can have a significant impact on families and communities in developing nations [21]. Warmer temperatures, droughts, and other extreme weather events can lead to crop loss and decreased access to clean water, destabilizing communities and forcing people to move away from their homes. This displacement and migration can create economic insecurity for families, disrupting their ability to provide for their children. It can also create social instability, as individuals and families try to adjust to new communities and cultures. In addition, extreme weather events can lead to floods and other disasters, damaging homes and making them uninhabitable. This can lead to increased poverty and malnutrition, particularly in rural communities, and can also lead to psychological distress, as people struggle to adapt to new surroundings and cope with a lack of support.

Climate change and extreme weather are having a

devastating effect on families and communities in developing nations [17]. Extreme weather events such as floods, droughts, and hurricanes are causing displacement and migration of people, as well as loss of livelihoods, homes, and resources. This displacement and migration can cause strain on communities, with people struggling to find resources, and to build new homes and livelihoods. Communities are often unable to cope with the influx of people, and can become overburdened and strained, with scarce resources having to be shared out among a much larger population. This can lead to increased poverty, malnutrition, and poorer health outcomes, especially for vulnerable groups such as children and the elderly. Climate change can also lead to a loss of agricultural land, as well as the destruction of natural habitats, which can have a huge impact on communities that rely on fishing or farming for their livelihoods. In addition, extreme weather can cause damage to infrastructure, such as roads and bridges, which can make

it harder for people to access vital services such as healthcare and education.

Climate change and extreme weather can have a significant impact on families and communities in developing nations. Climate change can cause extreme weather events such as flooding, drought, and hurricanes, which can lead to displacement and migration of people. This can disrupt families and communities, as people are forced to leave their homes and relocate elsewhere. This can lead to a loss of livelihoods and resources, which can have a detrimental impact on people’s health and well-being. In addition, displacement and migration can lead to a decrease in access to basic services such as healthcare, education, and safe drinking water [16]. These issues can be further compounded by limited resources and a lack of access to adequate housing, making it difficult for displaced people to rebuild their lives. Climate change and extreme weather also have an impact on the environment and natural resources, which can further contribute to poverty and food insecurity.

**HEALTH AND WELLBEING**

Climate change and extreme weather can have wellbeing of families and communities in developing nations. In many countries, extreme weather events such as floods, droughts, and heat waves can lead to health risks such as vector-borne and water-borne illnesses, malnutrition, and dehydration. In addition, extreme weather events can also cause displacement, leading to overcrowding, increased stress, and other mental health issues.

*Economy*

Climate change and extreme weather can also have a significant impact on the economy of developing nations. For example, extreme weather events can lead to crop failure and livestock loss, leading to food insecurity and poverty [15]. In addition, extreme weather can also disrupt infrastructure and other services, leading to further economic losses.

*Environment*

Climate change and extreme weather can also have a significant impact on the environment in developing nations [30]. In addition, extreme weather can also lead to an increase in natural disasters, such as floods, landslides, and storms, which can cause widespread destruction.

Climate change and extreme weather can have a devastating effect on families and communities in developing nations. These weather events can cause displacement, loss of life, destruction of infrastructure, and disruption of livelihoods. The health and wellbeing of people in these communities can be greatly impacted, as access to basic necessities such as healthcare, food, and clean water can be severely reduced or completely unavailable. In addition, extreme weather events can cause psychological distress, as people are often unable to predict or prepare for the events, leading to fear and anxiety about their safety and the safety of their loved ones [14]. Finally, extreme weather can also lead to increased rates of disease, as the spread of various illnesses is often more likely in the aftermath of a weather event. All of

these factors can have a significant and long-term impact on the health and wellbeing of individuals and communities in developing nations.

Climate change and extreme weather events can have a devastating effect on families and communities in developing nations. Extreme weather events, such as floods, cyclones and droughts, can cause destruction of homes, destruction of crops and loss of livelihoods. This can have a significant impact on the health and wellbeing of families and communities in developing nations. Lack of access to clean water, sanitation and health services, caused by extreme weather events, can lead to an increase in the spread of water-borne diseases, such as cholera, typhoid and diarrhoea. This can have an especially large impact on children, as they are more vulnerable to disease and malnutrition.

In addition to the effects of extreme weather events on health, climate change can also lead to a decrease in food security. Rising temperatures, unpredictable rain patterns and droughts can reduce crop yields, which can lead to food insecurity and malnutrition [12]. This can also increase the risk of malnutrition-related diseases, such as anaemia and stunting. Furthermore, climate change and extreme weather can also lead to displacement of families and communities. When their homes and livelihoods are destroyed, many people are forced to flee in search of safety and better living conditions.

This can lead to increased levels of poverty, as people are unable to access resources and services in their new locations. Overall, climate change and extreme weather events can have a devastating impact on families and communities in developing nations. These events can lead to an increase in disease, malnutrition, poverty and displacement. It is therefore essential that governments, aid organizations and other stakeholders work together to mitigate the effects of climate change and extreme weather on families and communities in developing nations.

Aspect	Description
<b>Flood</b>	Different types of flood are affecting millions of people to face adverse situation.
<b>Bad Air Quality</b>	Hotter summer is among the quality of air worse, thus the lung disease is increasing comparatively.
<b>Food</b>	Lack of food due to flood, drought are suffering different people.
<b>Health</b>	Overall low qualities of health are decreasing the average of human species.

**Table 2:** Negative effects descriptions of Climate change (Source: Made by the author)

**ECONOMIC DISRUPTION**

Climate change and extreme weather events are having a devastating impact on families and communities in

developing nations. The effects of climate change, such as rising temperatures, increased flooding, and more frequent and intense storms, can cause economic disruption by damaging infrastructure, disrupting livelihoods, and reducing crop yields. This can lead to decreased access to food, water, and other basic necessities, resulting in food insecurity and poverty. Climate-induced displacement can force people to leave their homes, resulting in further economic and social instability [13]. In addition, extreme weather events can cause physical and emotional trauma, and can exacerbate existing health issues. This can lead to increased mental health problems, and further strain already fragile healthcare systems in developing nations. Finally, extreme weather events can interfere with the educational opportunities of children, limiting their access to learning and making it difficult for them to succeed in the future.

Climate change and extreme weather events can have devastating economic impacts on families and communities in developing nations. Extreme weather patterns, such as droughts, floods, and hurricanes, can lead to significant losses in agricultural production, leaving communities without a reliable source of food and income. Additionally, extreme weather can cause infrastructure damage, such as destruction to roads, bridges, and buildings, leading to costly repairs that may be difficult to finance. These impacts, combined with other factors such as poverty, limited access to resources, and weak government structures, can lead to increased vulnerability and poverty for families and communities in developing nations.

In developing nations, climate change and extreme weather can have a devastating impact on families and communities. Such events can destroy homes, crops, and livestock, leaving families without the means to survive [14]. In addition, the destruction of infrastructure such as roads and bridges can make it difficult for people to access basic services or to get to work. This can lead to increased poverty and food insecurity, as well as increased health risks due to lack of access to clean water, sanitation, and medical care. Additionally, climate change can lead to longer and more intense droughts, which can lead to crop failure and decreased access to food, resulting in malnutrition and starvation. All of these factors can have an especially detrimental effect on the most vulnerable members of society, including children and the elderly.

Climate change and extreme weather can have a significant effect on families and communities in developing nations. This can lead to poverty, food insecurity, and displacement as families struggle to cope with the new realities facing them. In addition, extreme weather can also lead to increased health risks due to water-borne diseases and other illnesses related to heat and humidity. This can further strain already stretched health services and resources [15]. Finally, climate change can also lead to increased climate-related migration, as people move in search of more stable conditions. All of these impacts can have a devastating effect on families and communities in developing countries,

making it more difficult for them to build a sustainable future.

## CONCLUSION

Climate change and extreme weather have a significant impact on families and communities in developing nations. Such weather events can cause loss of life, displacement, decreased access to resources, and a decrease in overall quality of life for those affected. Extreme weather events such as floods, droughts, and hurricanes can lead to crop failures, loss of livelihoods, and an increase in poverty for those communities. In addition, these events can lead to an increase in disease and illness, and can cause further strain on already limited health care systems. In order to protect families and communities in developing nations from the effects of climate change and extreme weather, governments must take steps to increase their resilience to such events, including investing in infrastructure and providing assistance to those affected.

Climate change and extreme weather can have devastating effects on families and communities in developing nations. These effects can range from increased poverty and hunger due to crop failure, to displacement of people due to flooding and hurricanes, to water shortages due to drought. All of these can lead to decreased access to education, healthcare, and other basic needs. Additionally, the environmental damage caused by climate change and extreme weather can destroy livelihoods and damage local ecosystems, leading to further economic hardship and insecurity. This will require support from the international community as well, which can provide resources and assistance to help developing nations prepare for and respond to the challenges of climate change.

Climate change and extreme weather events have a significant impact on families and communities in developing nations. These events disrupt the lives of the people in these nations, leading to significant economic, health, and social impacts. Communities may experience poverty, displacement, food insecurity, and an inability to access basic services due to the destruction caused by extreme weather events. Climate change can also cause decreased agricultural production, leading to hunger and malnutrition. In addition to the immediate impacts of climate change and extreme weather, long-term effects can also have a detrimental effect on communities in developing nations. This includes increased poverty, damage to infrastructure, and further environmental degradation. This includes financial assistance, the implementation of climate-smart infrastructure, and the development of resilient and adaptive strategies for communities in developing nations.

## REFERENCES

- [1] Sanson, Ann V., Judith Van Hoorn, and Susie EL Burke. "Responding to the impacts of the climate crisis on children and youth." *Child Development Perspectives* 13.4 (2019): 201-207.
- [2] Leal Filho, Walter, et al. "Assessing the impacts of climate change in cities and their adaptive capacity: towards transformative approaches to climate change adaptation and

- poverty reduction in urban areas in a set of developing countries." *Science of the Total Environment* 692 (2019): 1175-1190.
- [3] Abubakar, Ismaila Rimi, and Umar Lawal Dano. "Sustainable urban planning strategies for mitigating climate change in Saudi Arabia." *Environment, Development and Sustainability* 22.6 (2020): 5129-5152.
- [4] Miles-Novelo, Andreas, and Craig A. Anderson. "Climate change and psychology: Effects of rapid global warming on violence and aggression." *Current Climate Change Reports* 5.1 (2019): 36-46.
- [5] Moda, Haruna M., Walter Leal Filho, and Aprajita Minhas. "Impacts of climate change on outdoor workers and their safety: some research priorities." *International journal of environmental research and public health* 16.18 (2019): 3458.
- [6] Bouwer, Laurens M. "Observed and projected impacts from extreme weather events: implications for loss and damage." *Loss and damage from climate change*. Springer, Cham, 2019. 63-82.
- [7] Conca, Ken. "Is there a role for the UN Security Council on climate change?." *Environment: Science and Policy for Sustainable Development* 61.1 (2019): 4-15.
- [8] Froese, Rebecca, and Janpeter Schilling. "The nexus of climate change, land use, and conflicts." *Current climate change reports* 5.1 (2019): 24-35.
- [9] Orimoloye, Israel Ropo, et al. "Implications of climate variability and change on urban and human health: A review." *Cities* 91 (2019): 213-223.
- [10] Poole, Jill A., et al. "Impact of weather and climate change with indoor and outdoor air quality in asthma: A Work Group Report of the AAAAI Environmental Exposure and Respiratory Health Committee." *Journal of Allergy and Clinical Immunology* 143.5 (2019): 1702-1710.
- [11] Hussain, Mudassar, et al. "A comprehensive review of climate change impacts, adaptation, and mitigation on environmental and natural calamities in Pakistan." *Environmental monitoring and assessment* 192.1 (2020): 1-20.
- [12] Fahad, Shah, and Jianling Wang. "Climate change, vulnerability, and its impacts in rural Pakistan: a review." *Environmental Science and Pollution Research* 27.2 (2020): 1334-1338.
- [13] Nicholas, Patrice K. "The Economics of Climate Change and the Intersection with Conflict, Violence, and Migration: Implications for the Nursing Profession." *Nursing Economic\$* 37.1 (2019).
- [14] Balogun, Abdul-Lateef, et al. "Assessing the potentials of digitalization as a tool for climate change adaptation and sustainable development in urban centres." *Sustainable Cities and Society* 53 (2020): 101888.
- [15] Simpson, Nicholas P., et al. "A framework for complex climate change risk assessment." *One Earth* 4.4 (2021): 489-501.
- [16] Geest, Kees van der, et al. "The impacts of climate change on ecosystem services and resulting losses and damages to people and society." *Loss and damage from climate change*. Springer, Cham, 2019. 221-236.
- [17] Shaffril, Hayrol Azril Mohamed, et al. "Systematic literature review on adaptation towards climate change impacts among indigenous people in the Asia Pacific regions." *Journal of cleaner production* 258 (2020): 120595.
- [18] Cianconi, Paolo, Sophia Betrò, and Luigi Janiri. "The impact of climate change on mental health: a systematic descriptive review." *Frontiers in psychiatry* 11 (2020): 74.
- [19] Cianconi, Paolo, Sophia Betrò, and Luigi Janiri. "The impact of climate change on mental health: a systematic descriptive review." *Frontiers in psychiatry* 11 (2020): 74.
- [20] Khan, Imran, et al. "Farm households' risk perception, attitude and adaptation strategies in dealing with climate change: promise and perils from rural Pakistan." *Land use policy* 91 (2020): 104395.
- [21] Eckstein, David, Vera Künzel, and Laura Schäfer. "Global climate risk index 2021." *Who Suffers Most from Extreme Weather Events* (2021): 2000-2019.
- [22] Koubi, Vally. "Climate change and conflict." *Annual Review of Political Science* 22 (2019): 343-360.
- [23] Ylipaa, Josephine, Sara Gabriellsson, and Anne Jerneck. "Climate change adaptation and gender inequality: insights from rural Vietnam." *Sustainability* 11.10 (2019): 2805.
- [24] Pour, Sahar Hadi, et al. "Low impact development techniques to mitigate the impacts of climate-change-induced urban floods: Current trends, issues and challenges." *Sustainable Cities and Society* 62 (2020): 102373.
- [25] World Health Organization. "Asia-Pacific Parliamentary Forum on Global Health: Fifth Meeting: Climate Change and Health, Nadi, Fiji, 20-22 August 2019." (2019).
- [26] Bernzen, Amelie, J. Craig Jenkins, and Boris Braun. "Climate change-induced migration in coastal Bangladesh? A critical assessment of migration drivers in rural households under economic and environmental stress." *Geosciences* 9.1 (2019): 51.
- [27] Matias, Denise Margaret S. "Climate humanitarian visa: International migration opportunities as post-disaster humanitarian intervention." *Climatic Change* 160.1 (2020): 143-156.
- [28] Rigaud, Kanta Kumari, et al. "Operational Experiences and Lessons Learned at the Climate Migration Development Nexus." (2021).
- [29] Djalante, Riyanti, and Shuaib Lassa. "Governing complexities and its implication on the Sendai Framework for Disaster Risk Reduction priority 2 on governance." *Progress in Disaster Science* 2 (2019): 100010.
- [30] McMichael, Celia, Carol Farbotko, and Karen E. McNamara. *Climate-migration responses in the Pacific region*. No. 297-314. Oxford, England: Oxford University Press, 2019.