Forum:	**EcoSoC**
Question of:	**Expanding natural disaster preparedness and mitigation**
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Position:	**Vice Chair**

I. Description of the Issue

Disasters and emergencies are fundamental reflections of normal life. They are consequences of the way society structure themselves, economically and socially; the way societies and states interact; and the way that relationships between the decision makers are sustained. Disasters have massive human and economic costs. They may cause many deaths, severe injuries, and food shortages. Most incidents of severe injuries and deaths occur during the time of impact, whereas disease outbreaks and food shortages often arise much later, depending on the nature and duration of the disaster. Anticipating the potential consequences of disasters can help determine the actions that need to be started before the disaster strikes to minimize its effects.

Disaster reduction makes humanitarian sense – because putting adequate warning and mitigation measures in place can save lives – and it makes economic sense as well because an ounce of prevention is usually worth a pound of cure.

Over the last four decades, scientific knowledge about natural hazards and the technological means of confronting them has expanded greatly. Yet despite the ample availability of knowledge and expertise, vulnerability is growing because unsustainable development, climate change and extremes of weather increase the scope and cost of disasters. Ever larger populations are at risk, mostly in the developing countries. Disaster reduction therefore is an important part of the United Nations' Millennium Development Goals for abating poverty. Mankind is facing an increasing burden of risk, largely because of the decisions about development that are sometimes inappropriately taken at the local, national and international levels. For example, populations are often concentrated on natural flood plains or along known earthquake fault lines.
Nevertheless, progress in the science and technology of detection of natural hazards, and of related coping mechanisms, have made it possible to introduce significant changes and improvements in the response to natural disasters.

Major progress has been made in the development of global meteorological models and their application to large-scale weather prediction.

II. Definition of Key Terms

Mitigation

Mitigation is permanent reduction of the risk of a disaster. Primary mitigation refers to reducing the resistance of the hazard and reducing vulnerability. Secondary mitigation refers to reducing the effects of the hazard (preparedness). Mitigation includes recognizing that disasters will occur; attempts are made to reduce the harmful effects of a disaster, and to limit their impact on human suffering and economic assets.

Prevention

Prevention is defined as those activities taken to prevent a natural phenomenon or potential hazard from having harmful effects on either people or economic assets. Delayed actions drain the economy and the resources for emergency response within a region. For developing nations, prevention is perhaps the most critical components in managing disasters, however, it is clearly one of the most difficult to promote. Prevention planning is based on two issues: hazard identification (identifying the actual threats facing a community) and vulnerability assessment (evaluating the risk and capacity of a community to handle the consequences of the disaster). Once these issues put in order of priority, emergency managers can determine the appropriate prevention strategies. Disaster prevention refers to measures taken to eliminate the root causes that make people vulnerable to disaster

Emergency

Emergency is a state in which normal procedures are suspended and extra-ordinary measures are taken in order to avert a disaster. An emergency can be defined in the context of the social, political and epidemiological circumstances in which it occurs. The World Health Organization (WHO) defines a disaster as “a sudden ecological phenomenon of sufficient magnitude to require external assistance”. It is also defined as any event, typically occurring suddenly, that causes damage, ecological disruption, loss of human life, deterioration of health and health services, and which exceeds the capacity of the affected community on a scale sufficient to require outside assistance. It is an emergency of such severity and

magnitude that the resultant combination of deaths, injuries, illness, and property damage cannot be effectively managed with routine procedures or resources.

III. Background information

Natural disasters, such as earthquakes, hurricanes, floods, tsunamis, volcanic eruptions, and wildfires, pose significant risks to human life, infrastructure, and ecosystems. With climate change amplifying the intensity and frequency of many such events, the need for robust disaster preparedness and mitigation strategies has become more critical than ever. However, the difference between preparedness and mitigation is significant and therefore requires and individual approach.

Preparedness refers to the planning, education, and actions taken in advance of a disaster to minimize loss of life, reduce damage to property, and accelerate recovery efforts. This involves a multi-level approach encompassing individuals, communities, governments, and international organizations. Key elements of preparedness include:

1. **Risk Assessment**: Identifying areas most at risk for specific types of natural disasters and understanding their potential impact. Governments and organizations use tools like hazard mapping, climate modeling, and geographic information systems (GIS) to evaluate vulnerabilities.
2. **Early Warning Systems (EWS)**: Developing reliable and timely early warning systems, which include alerts for storms, tsunamis, or earthquakes. These systems enable rapid response and evacuation plans that can save lives.
3. **Public Education and Awareness**: Educating communities about the risks they face and teaching them how to prepare. This includes drills, emergency kits, evacuation routes, and communication plans. This is essential to reduce panic and ensure fast responses during disasters.
4. **Emergency Response Plans**: Establishing local and national response frameworks that coordinate rescue operations, medical services, and relief distribution after a disaster. These plans must include evacuation protocols, resource allocation, and contingencies for the breakdown of infrastructure (such as power, water, and communication systems).

Mitigation involves long-term strategies to reduce the severity and long-term impact of disasters. It emphasizes minimizing damage to infrastructure, ecosystems, and communities through proactive measures. Mitigation efforts include:

1. **Building Codes and Land-Use Planning**: Implementing and enforcing strict building codes that ensure structures can withstand disasters like earthquakes, hurricanes, or floods. For example, designing buildings to sway rather than collapse during an earthquake, or elevating homes in flood-prone areas. Additionally, regulating land use in vulnerable zone, such as coastal areas prone to storm surges, can significantly reduce the potential for loss.
2. **Ecosystem-Based Mitigation**: Preserving natural barriers such as wetlands, river deltas, mangroves, and forests, which act as buffers against disasters like floods, tsunamis, or landslides. For instance, mangrove forests absorb wave energy, reducing the impact of coastal flooding. Reforestation efforts in mountainous regions can help prevent landslides and soil erosion.
3. **Infrastructure Investments**: Investing in resilient infrastructure, such as flood control systems (levees, dams, and storm drains), earthquake-resistant bridges, and seawalls. For instance, Tokyo has installed advanced flood control systems, including underground water tanks and pressure-relief mechanisms to protect against typhoons and heavy rains.
4. **Climate Change Adaptation**: Since climate change intensifies natural disasters, mitigation strategies also involve reducing greenhouse gas emissions and investing in sustainable infrastructure. Communities are adapting by improving water management, implementing renewable energy, and rethinking urban planning to create more resilient cities.
5. **Insurance and Financial Mechanisms**: Establishing risk transfer mechanisms, such as insurance, helps distribute the financial burden of disaster recovery. Governments and international organizations often create funds to help communities rebuild, but these financial safety nets must be supported by proactive mitigation to reduce the costs of future disasters.

The UNDRR goes as far as claiming:

"An essential step along this journey is acknowledging the fact that there is no such thing as a *natural* disaster. There are natural *hazards* that cannot be prevented, such as earthquakes, floods, droughts, and cyclones. But we can curb their destructive power—in other words, stop them turning into major disasters—through careful and coordinated planning that is designed to reduce people's exposure and vulnerability to harm."

~UNDRR

So (natural) disasters could be avoided, if mankind prepared beforehand.

There are several drivers of risk, increasing in strength and impact currently:

Climate change

Climate change can increase disaster risk in a variety of ways - by altering the frequency and intensity of hazard events, affecting vulnerability to hazards, and changing exposure patterns.

1. **Environmental degradation** is both a driver and consequence of disasters, reducing the capacity of the environment to meet social and ecological needs.
2. **Globalized economic development** has increased vulnerability to disasters in some cases, whilst increasing exposure to hazards in others as more (and often more valuable) assets are developed in hazard-prone areas.
3. **Poverty and inequality** is both a driver and consequence of disasters, and the processes that further disaster risk related poverty are permeated with inequality.
4. **Poorly planned urban development:** whether or not disaster risk is factored into investment decisions in urban development will have a decisive influence on the future of disaster risk reduction.
5. **Weak governance** includes investment environments in which public sector actors do not assume their roles and responsibilities.

IV. Historical background:

When:	What:
1970s-80s	Effective governmental institutional frameworks were already established in the 1970s-80s, particularly in highly disaster-prone countries, such as Bangladesh, the Philippines, the USA and some Latin American and Caribbean countries.
1990s	The United Nations General Assembly designated the 1990s as

	International Decade for Natural Disaster Reduction (IDNDR). Its basic objective was to decrease the loss of life, property destruction and social and economic disruption caused by natural disasters, such as earthquakes, tsunamis, floods, landslides, volcanic eruptions, droughts, locust infestations, and other disasters of natural origin.
1999	The International Strategy for Disaster Reduction was introduced and the UNDRR was founded.
March 18, 2015	Adoption of the Sendai Framework.

V. Major Countries and Organizations Involved

United Nations Office for Disaster Risk Reduction (UNDRR)

UNDRR is part of the UN Secreteriat and the lead UN agency for the coordination of disaster risk reduction. It supports the implementation and review of the Sendai Framework for Disaster Risk Reduction (DRR) adopted by the Third UN World Conference on DRR on 18 March 2015 in Sendai, Japan.

United Nations Educational, Scientific and Cultural Organization (UNESCO)

UNESCO has many programs in place that deal in one way or another with the study of natural hazards (earthquakes, volcanic eruptions, landslides, floods, tsunamis, droughts) and the mitigation of their effects. These programs help us understand the mechanisms of natural hazards and to analyze why some of these hazards turn into disasters.

VI. Previous attempts to solve the issue

International Decade for Natural Disaster Reduction (IDNDR)

An International Decade for Natural Disaster Reduction, beginning on 1 January 1990, was launched by the United Nations, following the adoption of Resolution 44/236 (22 December 1989). The Decade was intended to reduce, through concerted international action, especially in developing countries, loss of life, poverty damage and social and economic disruption caused by natural disasters. To support the activities of the Decade, a Secretariat was established at the United Nations Office in Geneva, in close association with UNDRO.

The UNDRR is now the successor of the IDNDR.

Sendai Framework for Disaster Risk Reduction 2015-2030

The Sendai Framework works hand in hand with the other 2030 Agenda agreements, including The Paris Agreement on Climate Change, The Addis Ababa Action Agenda on Financing for Development, the New Urban Agenda, and ultimately the Sustainable Development Goals. The Sendai Framework for Disaster Risk Reduction 2015-2030 outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks: (i) Understanding disaster risk; (ii) Strengthening disaster risk governance to manage disaster risk; (iii) Investing in disaster reduction for resilience and; (iv) Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction.

It recognizes that the State has the primary role to reduce disaster risk but that responsibility should be shared with other stakeholders including local government, the private sector and other stakeholders.

The UNDRR is tasked to support the implementation, follow-up and review of the Sendai Framework

The Framework was adopted at the Third UN World Conference on Disaster Risk Reduction in Sendai, Japan, on March 18, 2015.

VII. Possible solutions

Adaptive Infrastructure

Infrastructure should be designed not only to meet current risk standards but also to account for future risks associated with climate change, such as rising sea levels, increased storm intensity, and more frequent floods. Urban planning should take future climate scenarios into account, particularly in vulnerable coastal or flood-prone regions.

Eco-Based Solutions

Greater focus should be placed on ecosystem-based disaster risk reduction, such as restoring wetlands to buffer against floods, conserving mangroves to reduce coastal erosion, and reforesting areas prone to landslides. These natural barriers offer cost-effective and sustainable solutions for long-term mitigation.

Global Integration of Early Warning Systems

Expanding coverage and improving coordination between local, national, and international early warning systems would ensure timely alerts. Developing standardized protocols for data sharing and cross-border communication could reduce confusion and enhance response times.

VIII. How to prepare as a delegate

As delegates you are obligated to write at least **one draft resolution** and a minimum of **two preferably three position papers** so that you are properly prepared for all the topics.
You have time to hand in your position papers and resolution until **21.09.2024**.
If you hand in your position papers and resolution later than that, we will not correct them. If you have problems or questions during your research, you are welcome to contact me via the email address of the EcoSoC: **ecosoc.munoh'at'gym-meiendorf.de**

Questions you should consider during research:

As you are writing your position papers, it might be helpful to ask yourself these questions: Is my currently regularly affected by natural hazards/disasters?
Does my country has already established a commission, a framework, a warning system etc. to handle natural disasters, if so, which?
Is my country a donor or receiver of international funds to reduce disaster risk?
Has my country taken a stand on that topic or similar topics before?

IX. UN resolutions

International Strategy for Disaster Reduction (General Assembly (GA) resolution 54/219 1999

The secretariat of the International Strategy for Disaster Reduction (ISDR) was created in December 1999 with GA resolution 54/219 as a successor arrangement of the secretariat of the International Decade for Natural Disaster Reduction which is the same as the UNDDRR
In 2001, the General Assembly resolution 56/195 mandated the secretariat to serve as the focal point in the United Nations system for the coordination of disaster reduction and to

ensure synergies among the disaster reduction activities of the United Nations system and regional organizations and activities in socio-economic and humanitarian fields.

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