Dear Delegates,

We are pleased to welcome you to the 2016 Washington State Model United Nations Conference. This year's staff for the Economic and Social Council are: Director Doug Siegel, Assistant Director Claire Marvet, and Chair Hanna Dudsic.

The topics under discussion for ECOSOC are:

I. Addressing the Economic and Social Impacts of Climate Change
II. Financing for Natural Disaster Areas

Committee Note: Due to expected popularity of ECOSOC during WASMUN the committee size has been expanded from the traditional 54 delegations to 70 delegations.

Committee Overview

The United Nations Economic and Social Council (ECOSOC) was formed in 1945 as one of the six principal organs of the United Nations (UN). ECOSOC brings together policymakers, academics, business representatives, Non-Governmental Organizations (NGOs) and more, to discuss economic, environmental, and social issues pertaining to sustainable development.[1] The functions and powers of ECOSOC are stipulated under Chapter X of the UN Charter.[2] Under the mandate of the UN Charter, ECOSOC is placed under the authority of the General Assembly (GA). ECOSOC consists of 54 member states whom are elected by the GA for a three-year term. Many specialized agencies, funds, programs, and regional commissions report to ECOSOC, such as the World Health Organization (WHO), United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), United Nations Educational, Scientific, and Cultural Organization (UNESCO), and the UN Children's Fund (UNICEF). A four-week session is held annually in July alternating between the headquarters in New York and in Geneva, organized in four segments.[3] These four segments include High-level, Coordination, Operational Activities, Humanitarian Affairs, and General Segments. At this High-level segment, the chiefs of these international agencies discuss policy issues and a declaration is adopted, providing guidance and recommendations for action. The President of the Council is elected for one year, and chosen from the smaller or mid-size powers embodied on the Council. In July 2015, ECOSOC's President was Oh Joon, UN ambassador of the Republic of Korea. Also elected in July is the Bureau of ECOSOC, which functions to propose the agenda, (draw up a program of work), and organize the committee session with help from the UN Secretariat. This Bureau is comprised of one Government from each of the five world regions, consisting of the African States, Asian States, Latin America & Caribbean States, Eastern European States, and Western European & other states. Non-Governmental Organizations are able to obtain consultative status with the ECOSOC. ECOSOC is able to make reports with respect to international economic, environmental, and social matters, while also making recommendations to the General Assembly and other specialized agencies. As for ECOSOC's current deliberations on the topic of climate change, during the 2015 session, ECOSOC looked at the way in which the climate change problem could be a starting point for the creation of new jobs. The link between climate change

[1] About Us | United Nations Economic and Social Council." UN News Center.
[2] Chapter X | United Nations." UN News Center.
[3] Meetings and Events of ECOSOC and Its Subsidiary Bodies." Economic and Social Council.

challenges and labor is clear, and economic prosperity depends on a stable climate. With new policies being implemented, the shift towards a healthier and more sustainable economy could create more jobs. ECOSOC intends to positively forward the dimensions of sustainable development through economic, social, and environmental actions. Furthermore, ECOSOC may make recommendations for the purpose of promoting human rights and freedom. ECOSOC also prepares draft conventions to submit to the General Assembly, as they may be concerned, and may call to order matters that fall within their order of capabilities.

I. Addressing the Economic and Social Impacts of Climate Change

Introduction

Climate change has been a topic of discussion within the United Nations for decades. The term "climate change" is itself fraught with controversy. Although most sources, including the Intergovernmental Panel on Climate Change (IPCC), define "climate change" as referring to any significant change in climate regardless of its cause[4], the United Nations Framework Convention on Climate Change (UNFCCC) states in Article I that: "'Climate change' means a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods" and thus distinguishes between a human-caused "climate change" and a natural "climate variability".[5] Although this guide will briefly consider the issue of causation, our primary concern here is with the impact of such changes, which is the same regardless of their cause, and therefore the term "climate change" will be used to refer to any change in climate. The most basic aspect of climate change is a general warming of the earth's surface temperature, estimated by the IPCC at about 0.6 degrees Celsius since 1900,[6] a warming which is accelerating and is estimated at as much as 5.8 degrees by 2100.[7] As a consequence of this warming, world snow cover has decreased 10% since the 1960s, glaciers have retreated significantly and Arctic ice thickness has decreased as much as 40%.[8] Precipitation in the Northern Hemisphere has increased between 5-10% while Africa and the Mediterranean have seen significant decreases in precipitation.[9]

As stated above, the committee should focus its work on the possible effects of global climate change rather than addressing its cause. Nevertheless, as the international community attempts to take action to reduce or reverse the effects of climate change, it is clear that the international community cannot act against the problem if it has no clear understanding as to what caused it in the first place. The kind of warming pattern that has been observed over the past century can potentially be caused either by natural activity (fluctuations in solar output and volcanic activity) or by human activity (release of greenhouse gases and aerosols).[10] Careful climate modeling on the basis of known natural fluctuations over the last century led the IPCC to conclude that the changes in climate in that period were inconsistent with any natural explanation and that

[4] Intergovernmental Panel on Climate Change, Climate Change 2001: Synthesis Report, 2001
[5] United Nations, United Nations Framework Convention on Climate Change, 1994
[6] Intergovernmental Panel on Climate Change, Climate Change 2001: Synthesis Report, 2001
[7] Intergovernmental Panel on Climate Change, Climate Change 2001: Synthesis Report, 2001
[8] Intergovernmental Panel on Climate Change, Climate Change 2001: Synthesis Report, 2001
[9] Intergovernmental Panel on Climate Change, Climate Change 2001: Synthesis Report, 2001
[10] Intergovernmental Panel on Climate Change, Climate Change 2001: Synthesis Report, 2001

therefore "most of the observed warming over the last 50 years is likely to have been due to the increase in greenhouse gas concentrations."[11]

International Framework

In his 2009 report, Secretary-General Ban Ki-moon characterized climate change as a "threat multiplier."[12] As such, climate change may exacerbate pre-existing environmental, political, socio-economic, and cultural vulnerabilities as well as "overburdening governance capacities."[13] Developing countries, specifically those on the list of Least Developed Countries (LDCs), if struck by conflict or disasters have more difficulty adapting to climate change and its negative effects because of greater weaknesses in governance and infrastructure. Many have concerns about the effect climate change will have on health, economic growth, and reducing poverty. Ban also noted the devastating possibility of climate change slowing and even reversing all progress made in development, which may increase the number of vulnerable states and their populations.[14] Of the threats posed by climate change, resource scarcity including lack of available food and water sources, arable land for agriculture and farming, and land to build homes and communities is one of the most critical.[15] As resources decrease, competition for these resources becomes a matter of survival. Food security has already become an issue as evidenced by the 2009 food crisis, which greatly affected many nations, including but not limited to Afghanistan, Haiti, Nepal, Pakistan, Tajikistan, and Yemen.[16] Ban recalled the recent crisis as a small example of what might occur but on a larger scale should food shortages and resulting social unrest go unattended.[17] The International Panel on Climate Change in its fourth session concluded that any global average temperature rise above 3 degrees Celsius over a century compared to the 1980 to 1999 levels would result in a decrease in crop production.[18] In 2007-2008, Syria saw a drop in wheat harvest by one half, and in Jordan the cattle population fell to 600,000 from one million.[19] Forced migration from climate change and its effects on refugee populations are also a concern in the Middle East.

The International Organization for Migration (IOM) split migration caused by climate concerns into two categories: "climate processes such as sea-level rise, salinization of agricultural land, desertification and growing water scarcity" and "climate events such as flooding, storms and glacial lake outburst floods."[20] As situations worsen, populations will begin to migrate in search of survival and better living conditions. When food insecurity, land and water scarcity, rising sea levels and natural disasters exist, the risk of large-scale migration will grow. In a study analyzing 38 mass migrations since the 1930s, 19 of them resulted in some form of conflict.[21] In natural disasters, displaced people such as those in Indonesia after the tsunami in 2004, Hurricane

[11] Intergovernmental Panel on Climate Change, Climate Change 2001: Synthesis Report, 2001
[12] Ban, Report of the Secretary-General: Climate Change and its Possible Security Implications, 2009
[13] Ban, Report of the Secretary-General: Climate Change and its Possible Security Implications, 2009
[14] Ban, Report of the Secretary-General: Climate Change and its Possible Security Implications
[15] Ban, Report of the Secretary-General: Climate Change and its Possible Security Implications
[16] United Nations, The UN System Response to the World Food Security Crisis, 2008
[17] Ban, Report of the Secretary-General: Climate Change and its Possible Security Implications
[18] Intergovernmental Panel on Climate Change, Climate Change 2001: Synthesis Report, 2001
[19] Brown and Crawford, Rising Temperatures, Rising Tensions: Climate Change and the Risk of Violent Conflict in the Middle East
[20] Brown, Migration and Climate Change, 2008
[21] Ban, Report of the Secretary-General: Climate Change and its Possible Security Implications, 2009

Katrina in 2005, or the flood in Pakistan in 2010, are forced to find refuge in new areas of their own nation or often across borders.[22] Natural disasters have the potential to force mass populations into migration and do so without any warning. While climate change is not the sole cause of natural disasters, it acts as a multiplier of negative effects; which when applied to devastating events can gravely damage human well-being.[23] In the Northeast region of Syria, it was reported that 160 villages were abandoned after a 2007-2008 drought, with populations increasing in the urban areas.[24] Relocations already were made in the Federated States of Micronesia, Papua New Guinea, Tuvalu, the Solomon Islands, and Vanuatu.[25] Those most likely to be affected by such disasters and forced into such a situation are human settlements on coastlines and small islands. Nearly one third of the world's population is settled on a coast.[26] The IPCC expects average global sea levels to rise at least .18 meters if not up to .59 meters by 2090 to 2099 as compared to levels between 1980 to 1999.[27] In 2009, a BBC article on the effects of climate change stated, "Rising seas would make many areas uninhabitable leading to mass migrations and inevitably sparking violent conflict."[28]

Committee Specific Action

The ECOSOC has found that long-term success comes from integrated national strategies that incorporate all relevant stakeholders from public and private sectors.[29] Forming development strategies that address future economic, social, and political stresses resulting from climate change is part of ECOSOC effort to create long-term development planning which addresses possible and real climate changes.[30] Utilizing tools from ECOSOC and the UN to coordinate policies across regions, integrate strategies, and gain insight into successful development programs in similar environments will streamline the development process, reduce mistakes, and improve efficiency. The successful coordination of policy and planning across border and nations is critical to the climate change adaptation strategy of ECOSOC because it recognizes that impacts from climate change across borders.[31]

Such examples include when Indonesia created a disaster risk reduction strategy as part of a five-year development plan When a 7.6 magnitude earthquake struck in January 2012 no lives were lost in Aceh because early warning systems worked and evacuations were made on time. In Armenia support to the government reduced disaster risk and allowed villages to benefit from practical assistance, such as drainage systems that reduce the risk of flooding. In Mozambique, ECOSOC supported the government in disaster planning, risk mapping, early warning systems, shelter construction, establishing regional emergency operations centers and other disaster risk reduction strategies. In Pakistan, 2010 floods affected over 20 million people leaving homes, bridges, roads, electricity infrastructure, agricultural land, and crops destroyed. ECOSOC's

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[22] Brown, Migration and Climate Change, 2009
[23] Ban, Report of the Secretary-General: Climate Change and its Possible Security Implications, 2009
[24] Brown and Crawford, Rising temperatures, Rising Tensions: Climate Change and the Risk of Violent Conflict in the Middle East, 2009
[25] Ban, Report of the Secretary-General: Climate Change and its Possible Security Implications, 2009
[26] Ban, Report of the Secretary-General: Climate Change and its Possible Security Implications, 2009
[27] Intergovernmental Panel on Climate Change, Climate Change 2007: Synthesis Report, 2007
[28] Megrath, Climate Scenarios Being Released, 2009
[29] ECOSOC, Fast Facts: Capacity Development, 2011
[30] ECOSOC, Environment & Energy, Integrated Policy and Planning, 2014
[31] ECOSOC, Green, Low-Emission and Climate-Resilient Development Strategies, 2014

recovery program focused on re-establishing the capacity of the government to respond to future floods.

The ECOSOC focuses on developing capacity to adapt to climate change on three levels: national, sub-national, and the community level.[32] At all three levels, ECOSOC seeks to insulate high-risk populations from the impacts of future climate change, specifically to ensure agricultural and food security, quality water resources, coastal development, public health, natural resource and land management, and climate related disaster management.[33] There has been a new and increasing emphasis on community-based development, which prioritizes communities who are the greatest risk from the impacts of climate change, and partners with that community in its development efforts.[34] This is a change from typical top down strategies that may include local communities in the preparation or implementation of projects or policies. In Bangladesh, the Community-Based Adaptation (CBA) portfolio contains 5 projects: community-based wetland project, coping with climate risks by empowering women in coastal areas, piloting climate-resilient development initiatives, strengthening community resilience in the southwestern coastal area, and promoting diversified agro-based activities in the Jamalpur district.[35] Other Member States participating in the CBA program include Bolivia, Guatemala, Jamaica, Kazakhstan, Morocco, Namibia, Niger, Samoa, and Vietnam.[36] Some of these Member States have as many as 10 active development projects currently underway.[37] ECOSOC actively supports the development of an enabling environment that helps to ensure that overarching national planning and fiscal policies routinely account for climate change risks in their design.[38] Currently, funding for these efforts come from multilateral and bilateral sources including: Member States, the Global Environment Facility, and co-financing leveraged by ECOSOC itself in order to achieve baseline support for development needs.

Case Study - Sudan

The clearest example of climate change in progress, which has received a good deal of international attention due to the efforts of UN Secretary-General Ban Ki Moon, is the instability in the Sudan. Secretary-General Ban Ki Moon, in a June editorial to the Washington Post, stated his belief that "the Darfur conflict began as an ecological crisis, arising at least in part from climate change."[39] This is not idle speculation but a carefully considered train of thought based on the best available scientific evidence: climate change caused a warming of the waters of the Indian Ocean, which as we have already seen is causing a gradual decrease in the consistency of monsoon cycles.[40] Dry years, in which not enough rain falls to grow sufficient food, alternate dramatically with wet years which wash away soil and leave the land poor in nutrients.[41] The result is a lack of arable land and, in Darfur, a conflict between farmers and herders over control

[32] ECOSOC, Environment & Energy, Integrated Policy and Planning, 2014
[33] ECOSOC, Environment & Energy, Integrated Policy and Planning, 2014
[34] ECOSOC, Adaptation Learning Mechanism, Community-Based Adaptation Project, 2014
[35] ECOSOC, Adaptation Learning Mechanism, Community-Based Adaptation Project, 2014
[36] ECOSOC, Adaptation Learning Mechanism, Community-Based Adaptation Project, 2014
[37] ECOSOC, Adaptation Learning Mechanism, Community-Based Adaptation Project, 2014
[38] ECOSOC, Environment & Energy, Project Formulation, Financing and Implementation, 2014
[39] Ban Ki Moon, A Climate Culprit in Darfur, 2007
[40] Intergovernmental Panel on Climate Change, Climate Change 2001: Synthesis Report, 2001
[41] Intergovernmental Panel on Climate Change, Climate Change 2001: Synthesis Report, 2001

of the decreasing food and water.[42] The result was the crisis we see today. This progression of events is backed by the findings of the UNEP, which reports that "competition over oil and gas reserves, Nile waters and timber, as well as land use issues related to agricultural land, are important causative factors in the instigation and perpetuation of conflict in Sudan. The UNEP report concludes that the international community should "invest in environmental management to support lasting peace in Darfur, and to avoid local conflict over natural resources elsewhere in Sudan"[43]

Case Study - Southeast Asia

In global terms, Asia suffers a disproportionate number of "severe" natural disasters, and groups most at risk tend to be those classed as socially vulnerable: "women, the elderly, children, ethnic and religious minorities, single-headed households; people engaged in marginal livelihoods; socially excluded groups such as 'illegal' settlers and others whose rights and claim to resources are not officially recognized" as well as those who are poorer.[44] Covering the Asian region east of the Irrawaddy Delta in Myanmar to Thailand, Malaysia, Singapore, the Philippines, Viet Nam, Lao People's Democratic Republic, Cambodia, and Brunei Darussalam, several climate change "hot spots" have been identified in Southeast Asia.[45] Environmental concerns include rising sea-levels, storm surges, cyclones, and water stress as a consequence of freshwater salinization and urbanization. It is feared that climate change will amplify these events, and that they will place extra pressure on already-heavily populated cities as migration increases. A particular problem is that a third of the Southeast Asian population lives in areas "considered to be at risk of coastal flooding and its associated impacts."[46] Over the last decades, coastal areas in Southeast Asia have been the site of much development, resulting in greater population density, population growth, migration to coastal areas, inadequately-planned urbanization and "inappropriate development in high-risk areas for industry, shipping and transport, aquaculture, and tourism."[47] It is expected that climate change will increase the sea level from 0.09 meters to 0.88 meters by 2100, with four main physical effects and a host of socioeconomic impacts.[48] This is expected to entail lowland flooding, shoreline erosion, aggravated storm patterns and damage and the salinization of freshwater sources. The corresponding socioeconomic impacts are thought to include "the loss of economic, ecological, cultural, and subsistence values through loss of land, infrastructure, and coastal habitats; increased flood risk to people, land, and infrastructure, and the aforementioned values; and other impacts related to changes in water management, salinity, and biological activities."[49] To address the likelihood of migration through climate change, adaptation strategies that aim to firstly prevent disasters in the first instance and secondly to prepare for them so that they can be managed and their impacts minimized as far as possible, are very important. This is because adaptation strategies address the fundamental aspect of social vulnerability, which increases susceptibility to environmental migration, as they can

[42] Reuters, Darfur Conflict in Detail, 2007
[43] United Nations Environment Programme, Sudan Post-Conflict Environmental Assessment, 2007
[44] Zou and Thomalla, The Causes of Social Vulnerabilities to Hazards in Southeast Asia, 2008
[45] Asian Development Bank, Climate Change and Migration in Asia and the Pacific, 2009
[46] Asian Development Bank, Climate Change and Migration in Asia and the Pacific, 2009
[47] Zou and Thomalli, The Causes of Social Vulnerabilities to Hazards in Southeast Asia, 2008
[48] Zou and Thomalli, The Causes of Social Vulnerabilities to Hazards in Southeast Asia, 2008
[49] Zou and Thomalli, The Causes of Social Vulnerabilities to Hazards in Southeast Asia, 2008

"substantially enhance social capital and reduce the vulnerability of developing countries of Asia to climate change."[50]

Case Study - The Economics of Deforestation

Economic considerations on the costs of Greenhouse Gas (GHG) reductions have increased the importance of an issue that has been overlooked in climate policy although it provides a very cost-effective way to mitigation: the role of forests as so called carbon sinks or storages of carbon dioxide.[51] Scientific studies suggest that a fifth of the temperature increase in the last decades is due to deforestation, especially of tropical forests for logging or agricultural use, in addition to the natural impact of warming on tropical forests.[52] This is leading to a decrease in carbon uptake and thus reducing the capacity of tropical forests to contribute to climate mitigation.[53] The introduction of financial incentives for forest conservation was one of the central debates of the UNFCCC's 13th Conference of Parties in Bali 2007, as well as the 2008 Accra Climate Change Talks.[54] Further, the World Bank and the Global Forest Leaders Forum have hosted a number of conferences and workshops that explore the economic opportunities to reduce the growth of global GHG emissions and conserve forests.[55]

Brazil is one of the leading countries in the use of payments for the conservation of the environment, which is not only directed at accounting for the carbon storage service, but also at maintaining biodiversity, the water cycle, and at providing the chance to generate income and employment for the poor in the conservation of tropical forests.[56] Studies suggest that Brazilian farmers can earn up to 50 times more income under the EU's emission trading scheme than from the burning of rainforests and using it as cropland.[57] Thus, if designed appropriately, PES can both help to provide income to farmers, as well as significantly reduce emissions from the burning of rainforests for agricultural use – a source of emissions that account for three quarters of the total GHG emissions in Brazil.[58] The use of economic instruments can globally help to significantly contribute to GHG reductions and to the conservation of forests and generation of income for farmers.

Conclusion

Climate change is recognized as a global threat to human development as dwindling natural resources and extreme weather patterns continue to destroy infrastructure and hinder economic gains. Currently, the effects of climate change can be observed around the globe, and the mitigation of future changes is of great importance to the international community. However, because some effects of climate change have already begun to take effect, mitigation will no

[50] IPCC, Vulnerabilities and adaptive strategies, 2007
[51] Dietz, Right for the Right Reasons, A final Rejoinder on the Stern Review, 2007
[52] Gullison, Tropical Forests and Climate Policy, 2007
[53] Gullison, Tropical Forests and Climate Policy, 2007
[54] Miles and Kapos, Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation: Global Land-Use Implications, 2008
[55] Worldbank, Climate Change, 2008
[56] Hall, Paying for Environmental Services: The Case of Brazilian Amazonia, 2008
[57] Hall, Paying for Environmental Services: The Case of Brazilian Amazonia, 2008
[58] Hall, Paying for Environmental Services: The Case of Brazilian Amazonia, 2008

longer be a sufficient response to its effects. Therefore, fostering developing countries capacity to adapt to climate change will play a large role in our immediate future.

II. Financing in Natural Disaster Areas

"In the years ahead, trillions of dollars will be invested in hazard-exposed regions. If that money fails to account for natural hazards and vulnerabilities, risk will increase. Where such spending does address underlying risk factors, risk will go down." –Ban Ki-moon

Introduction

A natural disaster occurs when a natural hazard affects a human system. Natural disasters and associated loss, what an individual or company loses in wages or the ability to make money[59], disproportionately affect developing and small states[60]. Many of these states do not have the capacity to recover from disasters and losses represent a larger portion of their Gross Domestic Product (GDP) than more developed and larger states. For example, the 2005 Hurricane Katrina caused 1.1% direct loss of annual GDP for the United States, while the 2010 earthquake in Haiti caused a 114% direct loss of annual GDP for Haiti[61]. Direct losses from natural disasters are those resulting from infrastructure, lifeline, and building damage. Indirect losses are for example; commuter disruptions, loss of local tax revenues, and reduced tourism[62].

Global economic loss due to natural disasters is estimated to be between $250 billion USD to 300 billion USD per year on average[63] and more than 226 million people are affected by disasters per year[64]. Natural hazards are increasing due to global climate change[65]. According to EM-DAT, the International Disaster Database, weather-related disasters from 2005 to 2014 increased by 14% from 1995 to 2004[66]. Global climate change and its effect on disasters will affect all states, but especially Small Island Developing States (SIDS). More frequent storms and the threat from rising sea levels puts SIDS at an even greater disadvantage. Future disaster losses pose a large threat to SIDS' economies and future disasters threaten the populations of these states[67].

International Framework

The Sustainable Development Goals (SDGs) of the 2030 Agenda for Sustainable Development call for "sustained, inclusive and sustainable economic growth;" "mak[ing] cities and human

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[59] "What is Economic Loss? Definition and Meaning." BusinessDictionary.com Accessed January 24, 2016. http://www.businessdictionary.com/definition/economic-loss.html

[60] *Financial Protection Against Natural Disasters*. Publication. Washington, D.C.: 2014 International Bank for Reconstruction and Development / International Development Association or The World Bank, 2014. page 12

[61] Financial Protection of the State against Natural Disasters. Working paper. World Bank, 2010. page 4

[62] "The Economics of Natural Disasters." The Economics of Natural Disasters. Accessed January 24, 2016. https://www.stlouisfed.org/Publications/Regional-Economist/April-1994/The-Economics-of-Natural-Disasters.

[63] The Human Cost of Weather Related Disasters 1995-2015. Report. UNISDR. page 5

[64] "United Nations,conference,Rio 20,future,Brazil,sustainable Development,jobs,energy,cities,food,water,oceans,disasters." UN News Center. Accessed January 27, 2016. http://www.un.org/en/sustainablefuture/disasters.asp.

[65] Sendai Framework for Disaster Risk Reduction 2015-2030. Report. Geneva, Switzerland: UNISDR, 2015. page 10

[66] The Human Cost of Weather Related Disasters 1995-2015. Report. UNISDR. page 5

[67] The Human Cost of Weather Related Disasters 1995-2015. Report. UNISDR. page 15

settlements inclusive, safe, resilient, and sustainable;" and "strengthen[ing] resilience and adaptive capacity to climate-related hazards and natural disasters in all countries[68]." As the SDGs followed the Millennium Development Goals (MDGs), the Sendai Framework for Disaster Risk Reduction was adopted in 2015 following the Hyogo Framework for Action (2005). The Sendai Framework, a voluntary and non-binding agreement, asserts that reducing disaster risk is "a cost-effective investment in preventing future losses[69]" and puts forth four priorities: Understanding disaster risk, strengthening disaster risk governance to manage disaster risk, investing in disaster risk reduction for resilience, and enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation, and reconstruction[70]. The Paris Agreement adopted at the 2015 Paris Climate Change Conference is also, in part, an effort to reduce the causal factors of disasters. This agreement addresses global climate change, which is increasing the frequency of natural disasters as around the world[71].

The United Nations Office for Disaster Risk Reduction (UNISDR) is the UN Office that disaster risk reduction falls under. According to UNISDR, disaster risk reduction is "the concept and practice of reducing disaster risks through systematic efforts to analyze and reduce the causal factors of disasters[72]." The World Bank is another international body which contributes to the issues at hand. This organization contributes technical and financial support to states, especially those which are developing and are at high risk for natural disasters, in order to improve disaster risk management. For example, the World Bank loaned $500 million to the Philippines in December 2015, a state at high risk for typhoons, earthquakes, and volcanic eruptions[73].Within the World Bank the International Bank for Reconstruction and Development (IBRD) provides these services to middle-income and credit-worthy poor states, while the International Development Association (IDA) works with the poorest states. The IDA offers concessional loans, which have low or no interest and long repayment periods, as well as grants and debt relief. Both of these institutions provide assistance for a variety of reasons in addition to natural disaster risk reduction[74]. The IBRD raises most of its funds on the world's financial markets and the IDA is mainly funded by donations from member countries[75]. The World Bank also produces documents exploring how to finance at-risk areas and works to reduce disaster risk, partnering with UN agencies, regional bodies, the private sector, other multilateral development banks, technical agencies, and civil society organizations. The Global Facility for Disaster Reduction and Recovery (GFDRR), a network of forty-one countries and eight international organizations working to help developing countries with risk reduction and response to natural disasters, is one of these partners and was established by the World Bank in 2006[76].

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[68] "SDGs .:. Sustainable Development Knowledge Platform." SDGs .:. Sustainable Development Knowledge Platform. Accessed January 24, 2016. https://sustainabledevelopment.un.org/sdgs.
[69] Sendai Framework for Disaster Risk Reduction 2015-2030. Report. Geneva, Switzerland: UNISDR, 2015. page 9
[70] Sendai Framework for Disaster Risk Reduction 2015-2030. Report. Geneva, Switzerland: UNISDR, 2015.
[71] Adoption of the Paris Agreement. Proposal by the President. Report. Geneva, Switzerland: United Nations Office at Geneva, 2015.
[72] "What Is Disaster Risk Reduction?" UNISDR News. Accessed January 24, 2016. https://www.unisdr.org/who-we-are/what-is-drr.
[73] "World Bank Loans Philippines $500m to Fight Natural Disasters." Yahoo. December 23, 2015. Accessed January 24, 2016. http://news.yahoo.com/world-bank-loans-philippines-500m-fight-natural-disasters-131642154.html.
[74] "The World Bank." What Is IDA. Accessed February 04, 2016. http://www.worldbank.org/ida/what-is-ida.html.
[75] *International Development Association*. Report. Washington, D.C.: Development Finance Vice Presidency of the World Bank Group, 2016.
[76] "Disaster Risk Management." The World Bank. Accessed February 4, 2016. http://www.worldbank.org/en/topic/disasterriskmanagement/overview#4.

The ECOSOC is also involved in disaster risk reduction. The body worked with The Rural Electric Safety Achievement Program (RESAP) to develop a drought monitoring and early warning system for Asia and the Pacific[77]. The ECOSOC also contributes funding for disaster risk reduction, such as with the Economic and Social Commission for Asia and the Pacific Trust Fund for Tsunami, Disaster and Climate Preparedness. The fund contributes to capacity building in Asia and the Pacific and to the development of early warning systems[78]. In addition to disaster risk reduction and contributing funding, the subsidiary bodies of ECOSOC publish assessments and make policy recommendations for states. One example of this is the Economic Commission for Latin America and the Caribbean document, "Socio-economic vulnerability to natural disasters in Mexico: rural poor, trade and public response." This document focuses on the damage to agriculture caused by natural disasters and proposes both public sector and government financial policies to reduce losses[79].

Case Study - The Caribbean Catastrophe Risk Insurance Facility

The Caribbean Catastrophe Risk Insurance Facility (CCRIF) was formed in 2007 and is a non-profit risk-pooling facility for Caribbean governments; it was the first multi-country risk pool in the world. Risk pooling means that entities pool their money, thus protecting against risks such as natural disasters, which would require a payout. The CCRIF limits the financial impact of natural disasters on Caribbean member governments by providing funds when a disaster occurs, and also offers policy recommendations. The total payout for 2007-2015 was $37,972,474 USD. This accounted for catastrophes such as 2010 tropical cyclone Tomas and the 2010 earthquake in Haiti. In addition to risk-pooling, the CCRIF has formed partnerships with the Caribbean Community Climate Change Centre, Caribbean Disaster and Emergency Management Agency, and the Caribbean Institute for Meteorology and Hydrology. These partnerships were formed to increase resilience and capacity in the region, and to develop early warning systems[80].

On June 19, 2015, at a meeting of the Humanitarian Affairs Segment of ECOSOC, the CCRIF was discussed. Michael Lies, Chief Executive Officer of Swiss Re, said that the CCRIF addressed the problem that 75% of economic losses from disasters worldwide are not insured. The percentage of uninsured losses from natural disasters is even higher in developing countries[81]. An example of this problem is when "donor hesitance" hurt the flow of emergency aid to Pakistan in 2010 after flooding[82]. Governments provide emergency relief during and

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[77] "Integrating Disaster Risk Reduction in Asia-Pacific Development Planning." United Nations ESCAP. November 27, 2013. Accessed January 24, 2016. http://www.unescap.org/speeches/integrating-disaster-risk-reduction-asia-pacific-development-planning.

[78] "ESCAP Trust Fund for Tsunami, Disaster and Climate Preparedness." United Nations ESCAP. August 21, 2014. http://www.unescap.org/disaster-preparedness-fund.

[79] Saldaña-Zorrillo, Sergio O. Socio-economic Vulnerability to Natural Disasters in Mexico: Rural Poor, Trade and Public Response. Publication. Vol. 92. Serie Estudios Y Perspectivas (México, DF). 2007.

[80] "About Us." The Caribbean Catastrophe Risk Insurance Facility. Accessed January 25, 2016. http://ccrif.org/content/about-us.

[81] "ECOSOC Humanitarian Affairs Segment Highlights Financing Needs, Sendai Framework | Sustainable Development Policy & Practice | IISD Reporting Services." ECOSOC Humanitarian Affairs Segment Highlights Financing Needs, Sendai Framework | Sustainable Development Policy & Practice | IISD Reporting Services. June 19, 2015. Accessed January 25, 2016. http://sd.iisd.org/news/ecosoc-humanitarian-affairs-segment-highlights-financing-needs-sendai-framework/.

[82] "CLIMATE CHANGE: Disaster Insurance the Caribbean Way." IRINnews. December 16, 2010. Accessed January 25, 2016. http://www.irinnews.org/report/91385/climate-change-disaster-insurance-the-caribbean-way.

directly after a disaster, and the speed of the response is important for its impact[83]. A risk pool like CCRIF or other insurance mechanism could have alleviated this problem. Another problem the CCRIF address is the financial impact disasters can have on a government of a developing state. Emergency relief, rebuilding of infrastructure, and planning for recovery can disrupt the everyday services that the government provides[84].

Case Study - Mexico's Fund for Natural Disasters

Mexico's diverse geography means it is prone to many different types of natural disasters. It is ranked as one of the most seismically active countries on Earth and is exposed to storms, drought, forest fires, floods, and landslides. Because of population growth, more people in Mexico will be exposed to natural hazards. Mexico has worked to develop its policy on disaster risk management in order to alleviate this[85]. Disaster risk is the potential disaster losses which could occur in a community over a period of time and disaster risk management seeks to lessen the possibility and impacts of future disasters[86].

As part of these efforts, the Federal Government of Mexico established the Fund for Natural Disasters (FONDEN) in 1996. FONDEN is a mechanism that makes it possible for entities to coordinate to provide funds so that the government can respond to natural disasters while still providing public services. Under FONDEN is a disaster risk management fund, which is used before an event occurs, an immediate fund, used to support the affected population directly after a disaster, and two funds providing for reconstruction. This financial instrument receives resources through the Federal Budget, and by law cannot receive more than 0.4 percent of the annual budget of the Program for Reconstruction[87].

Case Study - Understanding Risk (UR)

Some states' lack of disaster risk reduction (DRR) policy may be due to inadequate understanding of what disaster risk and DRR are. The terminology and concepts are complicated and a shift in the disaster risk management paradigm has occurred only in the time since the adoption of the Hyogo Framework for Action (2005). The recent changes may be one cause for a lack of understanding about disaster risk and why some governments and stakeholders focus heavily on response without considering DRR[88].

Understanding Risk (UR) was founded in 2010 by the GFDRR and the World Bank Group to address this problem. Understanding Risk is an open community for collaboration and sharing knowledge for identification and assessment of disaster risk. Representatives from the private sector, NGOs, academia, research institutions, civil society, governmental agencies, as well as

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[83] *Financial Protection Against Natural Disasters*. Publication. Washington, D.C.: 2014 International Bank for Reconstruction and Development / International Development Association or The World Bank, 2014. Page 16

[84] Innovation in Disaster Risk Financing for Developing Countries: Public and Private Contributions. Publication. World Bank, 2011.

[85] FONDEN: Mexico's Natural Disaster Fund--a Review. Review. Washington, D.C.: International Bank for Reconstruction and Development/The World Bank, 2012.

[86] "Terminology." UNISDR News. Accessed January 25, 2016. https://www.unisdr.org/we/inform/terminology#letter-d.

[87] FONDEN: Mexico's Natural Disaster Fund--a Review. Review. Washington, D.C.: International Bank for Reconstruction and Development/The World Bank, 2012.

[88] *Progress and Challenges in Disaster Risk Reduction*. Publication. United Nations, 2014.

anyone interested in risk identification are part of the community[89]. This organization holds biennial forums with free and open registration on disaster risk, which attract experts and practitioners from around the world. The 2014 UR forum held in London, UK, was attended by 840 participants from over 60 countries and included workshops, technical sessions, exhibits, and other events. Several documents from the conference were published, and Google and Airbus committed to provide high resolution Digital Elevation Model (DEM) of the Earth's entire land surface[90]. The next biennial forum will be held in Istanbul, Turkey, from May 16 to 20, 2016, but the UR community promotes initiatives and opportunities throughout the year and hosts other events around the world focusing specifically on host countries[91].

Case Study - The Myanmar Emergency Response Fund (ERF)

The ERF is a pooled funding mechanism managed by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA). Its purpose is to provide funding for projects which provide humanitarian assistance to people in Myanmar affected by disasters, including those due to natural hazards and conflict[92]. Myanmar is ranked as the "most at risk" country in Asia the Pacific by the UN Risk Model due to the large losses caused by floods, landslides, tsunamis, earthquakes, and cyclones[93]

Since 2007, the ERF has received $12.9 million USD in contributions from the United Kingdom, Sweden, and Australia. These donations have been used for projects which have improved learning environments, improved access to clean and safe water, delivered food supplies and increased food production, provided health assistance and medicine, and provided assistance for waste management in internally displaced person (IDP) camps. The ERF has targeted more than 572,000 vulnerable people[94]. A minimum of 60% of a given project's budget must be used for humanitarian response in order to qualify for a grant, and there is no grant ceiling. The ERF recognizes the difference between projects focusing on emergency response, which have a maximum duration of six months, and other projects which seek to address gaps in humanitarian response, which have twelve months. NGOs and UN agencies must be registered with the government of Myanmar in order to receive a grant, but those that are not can still receive a sub-grant from a registered organization

Conclusion

Natural disasters threaten lives, quality of life, and economies. Disaster losses can be reduced through financing that takes risk into account. This could mean creating a fund for emergency relief, investing in early warning systems, or devising another creative method of managing disaster risk. Some governments have taken creative approaches to natural disaster financing,

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[89] "About." Understanding Risk. Accessed February 04, 2016. https://understandrisk.org/about/.
[90] "2014 Understanding Risk Forum." Understanding Risk. Accessed February 04, 2016. https://understandrisk.org/event/2014-ur-forum/.
[91] "About." Understanding Risk. Accessed February 04, 2016. https://understandrisk.org/about/.
[92] "The Myanmar Emergency Response Fund." The Myanmar Emergency Response Fund. Accessed February 04, 2016. http://www.unocha.org/myanmar/humanitarian-financing/emergency-response-fund-erf.
[93] "Myanmar: Natural Disasters 2002 - 2012." ReliefWeb. Accessed February 04, 2016. http://reliefweb.int/map/myanmar/myanmar-natural-disasters-2002-2012.
[94] *Myanmar Emergency Response Fund*. Publication. OCHA, 2015.

such as Mexico with FONDEN, but others do not have the capacity to address disasters or access to important financial knowledge. The Sendai Framework for Disaster Risk Reduction states the importance of disaster risk reduction and devises a plan to achieve this and Understanding Risk provides platforms for knowledge sharing. ECOSOC has contributed the discussion about risk reduction, as well as contributing funding to projects and making policy recommendations to states. Another widespread problem is the effect that emergency relief, cash-flow problems when receiving aid, and rebuilding can have on a country's economy. The CCRIF is only one example of how to address this. Through consideration of the problems affecting states' ability to address natural disasters, many lives can be saved and economies strengthened.