Florida High Schools Model United Nations

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UNITED NATIONS DEVELOPMENT PROGRAMME

CLIMATE & DISASTER RESILIENCE

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"I reflect on my childhood experience when I would visit a stream next to our home to fetch water for my mother. I would drink water straight from the stream … This is the world I inherited from my parents. Today, over 50 years later, the stream has dried up, women walk long distances for water, which is not always clean, and children will never know what they have lost. The challenge is to restore the home of the tadpoles and give back to our children a world of beauty and wonder."

— Wangari Maathai, environmental activist, 2004[1]

Abstract: Developing mitigation strategies to address issues brought on by climatological effects and by natural disasters are crucial, both to the developing and developed worlds, to ensuring consistent viability on economic and social levels. Through the United Nations Development Programme (UNDP) and the UN System, member-states are assisted in their capacity building efforts to help tackle these problems, both theoretical and actual. But not every problem to be tackled is obvious. While certain issues are readily apparent — usually in the immediate aftermath of a tragedy or natural disaster — others are exacerbated by other societal pressures that merit attention. This guide will explore one of those other issues (specifically increasing the capacity of women and girls to play important roles in decision-making and in recovery efforts) while also highlighting previous, on-the-ground roles UNDP and its affiliates have played in addressing disasters and their recovery.

[1] Maathai, Wangari, "Nobel lecture," 2004, http://www.nobelprize.org/nobel_prizes/peace/laureates/2004/maathai-lecture-text.html.

Introduction

> "Over the past decade more than 1.5 billion people have been affected by disasters that have cost at least US$ 1.3 trillion. Climate change, weak governance, and an increasing concentration of people and assets in areas exposed to natural hazards are driving disaster risk upwards, especially in poor and fragile countries."[2]

Consider the steps necessary for disaster preparedness. First, before a problem even exists, a plan must be put in place to address any variety of scenarios, even if they may have a minute chance of occurring. Then, if a disaster happens, recovery must take place in both immediate and long-term manners: for example, restoring access to food, clean water and electricity following a natural disaster is a much more pressing and urgent concern than, say, rebuilding a bridge that has been destroyed. Similarly, capacity for hospitals and other medical facilities must be strong enough to handle massive instances of trauma, and still be able to operate functionally and as close to fully as possible in the event of a natural disaster, even if access to utilities is scant or otherwise unavailable.

Instead of focusing exclusively on preventing disasters, member-states need to work to develop methods of understanding what risks they face due to natural disasters, and what steps would need to be undertaken were one to take place. This method of finding actionable risk information is one of UNDP's benchmarks in the area, working with stakeholders from multiple sectors to figure out what would be left most vulnerable, for instance, in the event of varying natural disasters. Such assessments need not only to consider issues of infrastructure, but also those surrounding people. For example, consider an agrarian society where women are responsible for cultivation of a crop. Profits from that crop are then used to send younger generations of women and girls to school. Were a flood to take place and wash out a cultivation area, not only are the women impacted left without stable work, but their children are unable to gain an education as a result.

Thinking of disaster readiness as a series of interlocking issues helps member-states and UNDP better address problems at hand,[3] but also dovetails with the Sendai Framework for Disaster Risk Reduction, borne from the UN Office for Disaster Risk Reduction (UNISDR).[4] This arm of the UN System works with other organs of the organization and with member-states in order to coordinate disaster response and to develop sets of best practices on how to address disasters before, during and after their

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[2] "Climate and disaster resilience: Disaster risk reduction," UNDP, 2017, http://www.undp.org/content/undp/en/home/climate-and-disaster-resilience/disaster-risk-reduction.html.

[3] "Climate and disaster resilience: Actionable risk information," UNDP, 2017, http://www.undp.org/content/undp/en/home/climate-and-disaster-resilience/disaster-risk-reduction/actionable-risk-information.html.

[4] "Sendai Framework for Disaster Risk Reduction 2015-2030," UNISDR, 2015, http://www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf.

arrival. It acts as a liaison with officials developing UN country development frameworks to ensure disaster recovery and response are elements of those plans and helps address ways UN agencies and other affiliated groups, like the World Bank, can respond better to disasters in times of need. However, participation in UNISDR's plans is not universal: estimates from 2014 put the figure around 70 percent. While laudable, more member-states could take advantage of these programs to better address the issues of disaster preparedness and response where applicable.[5]

Another important facet of disaster preparedness concerns alerting people of oncoming events. Events like the South Asian earthquake and tsunami of 2004 took place without much, if any, advance warning to populations, leading to wide-scale tragedy. While some natural disasters, like tropical cyclones, can be forecasted and predicted within days of making landfall, other events do not have the same kind of luxury, either because of a lack of infrastructure in developing parts of the world, or because science has not caught up fully to studying such occurrences. UNDP works with information and communication technologies (ICT) firms to develop ways to put early warning systems in the developing world to try and add an extra layer of support when disaster strikes. This may be as simple as the installation of sirens alerting populations to immediate, inclement weather, or as sophisticated as sending SMS or other alerts to mobile phones in the event of an oncoming disaster.[6] Even allowing people a few minutes' notice of a tornado or other event can mean the difference between life and death.

Sustainable energy

Another facet in addressing disaster and climate resilience comes from the need to develop and utilize cleaner forms of energy. From trying to reduce carbon emissions to producing materials with high rates of recycling and little waste byproduct, it's not that easy being green.[7] Developing countries have often complained that protocols and initiatives put in place to reduce environmental degradation do little to benefit them; instead, they perpetuate inequality by limiting their capacity for economic growth because they are not allowed to industrialize as quickly — or as dirtily — as their western counterparts have done throughout time.

When examining how to address issues concerning sustainable consumption and production, economics plays a crucial role: nation-states and the corporations that call them home will see little incentive to spend capital and resources in order to improve their environmental standing unless there is some kind of net positive benefit for them to do so. For example, although the amount of carbon emissions related to energy

[5] "UNISDR in the UN System," UNISDR, http://www.unisdr.org/who-we-are/unisdr-in-un.
[6] "Climate and disaster resilience: Preparedness & early warning," UNDP, 2017, http://www.undp.org/content/undp/en/home/climate-and-disaster-resilience/disaster-risk-reduction/preparedness-and-early-warning.html.
[7] Just ask Kermit the Frog.

production by nuclear energy is far lower than that of a coal- or gas-fired power plant,[8,9] the cost per kilowatt-hour for such electricity is higher than that of a fossil fuel powered plant given certain economic conditions.[10] Though this is but one example, it is an exemplar of how high-cost, high-reward situations in environmental policy are not as readily accepted as ones with lower costs and dubious, if any reward.

However, as stated previously, emissions of greenhouse gases from industrial activities have gotten the world into the predicament it faces now; encouraging countries to continue to emit such gases will not solve the problem. One manner of addressing the problem can come from actionable policy. Consider, by way of example, the idea of implementing a Pigovian-type of tax[11] on emitters. By taxing emissions at a flat rate per ton, it incentivizes producers to find new, more environmentally friendly ways to produce their goods because the subsequent emissions reduction acts as a tax cut. In some instances, such as a carbon tax that was approved in Australia, this type of scheme is used as an intermediary before shifting to a full cap-and-trade mechanism. Australia's carbon tax, which was introduced during the summer of 2012, put a price of 23 AUD on every ton of carbon emitted; by 2015, the scheme was due to evolve into a full emissions trading scheme.[12] However, this indirect form of taxation is not always popular with consumers, who may face increased costs when purchasing goods produced by industries that produce large amounts of greenhouse gas emissions – a nonscientific poll conducted by the *Melbourne Herald Sun* showed nearly 82% of respondents were opposed to the introduction of a carbon tax in Australia, or with lawmakers who do not support government intervention in the market – Australia's tax passed in the lower house of parliament with 74 members of parliament in favor and 72 against.[13] However, following a general election, the tax was repealed in 2014 before fully coming online,[14] illustrating how changes in domestic governments can have unexpected impacts on environmental policies.

These kinds of policies, though, are not effective everywhere. Accordingly, UNDP promotes the development of sustainable sources of energy generation more

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[8] National Renewable Energy Laboratory (U.S.), "Life cycle assessment harmonization results and findings," 21 July 2014, http://www.nrel.gov/analysis/sustain_lca_results.html.

[9] U.S. Energy Information Administration, "How much carbon dioxide is produced per kilowatt-hour when generating electricity with fossil fuels?" 29 February 2016, https://www.eia.gov/tools/faqs/aq.cfm?id=74&t=11.

[10] International Energy Agency and Nuclear Energy Agency, "Projected costs of generating electricity," 2015, https://www.iea.org/Textbase/npsum/ElecCost2015SUM.pdf.

[11] A Pigovian tax taxes negative externalities, or deleterious side effects of doing something positive, such as manufacturing products; in this instance, the emission of greenhouses gases such as CO_2 is considered a negative externality of production.

[12] "Carbon tax gets green light in Senate," *Sydney Morning Herald*, 8 November 2011, http://www.smh.com.au/business/carbon-tax-gets-green-light-in-senate-20111108-1n4rp.html.

[13] Hudson, Phillip and Matt Johnston, "Protesters disrupt Question Time after carbon bills pass lower house," *Melbourne Herald Sun*, 12 October 2011, http://www.heraldsun.com.au/news/more-news/carbon-tax-bills-pass-lower-house-of-federal-parliament/story-fn7x8me2-1226164570957.

[14] Department of the Environment and Energy (Australia), "Repealing the carbon tax," https://www.environment.gov.au/climate-change/repealing-carbon-tax.

prominently. In fact, access to clean, sustainable energy is part of the Sustainable Development Goals, which supplanted the Millennium Development Goals. SDG 7 aims to provide access to affordable and efficient renewable energy for all people,[15] and UNDP works to facilitate these goals through its work. For example, UNDP projects have brought renewable, clean hydropower to Nepal; this in turn promoted increases in school attendance, helped foster more economic growth through business development & improved healthcare quality by making electricity more readily available at a low cost.[16] Relatedly, UNDP's Green Climate Fund helps bankroll energy efficiency schemes around the world to cut costs incurred from older equipment and systems,[17] and more sustainable forms of transportation. These help in the fight against climate change by attacking greenhouse gas emissions at their sources. With fewer gases emitted, populations can start to work on ways to become greener and reduce the impacts they may have had at one point on the environment; because higher emissions can lead to more severe weather events and natural disasters, these methods work to increase the overall resilience of populations in light of potential tragedy. Delegates to the United Nations Development Programme (UNDP) may wish to examine some of the emerging critiques of the distribution of Green Climate Fund resources and consider ways to improve the awarding and disbursement of grants and funding.[18]

How to respond

In the immediate response to a natural disaster, aid, personnel and other equipment must make their way to a disaster zone quickly, oftentimes from far-flung ports of call. Often, this calls for aerial support. As UNDP notes, airports following natural disasters may "become vital hubs where terrified people seek a passage out and where incoming aid is coordinated and distributed." Smaller airports may not have the capacity on a clear day to deal with a sudden influx of flights, cargo and people; in the wake of a natural disaster, those problems are exacerbated by orders of magnitude.[19]

But natural disasters do not discern – airports and other vital public and private infrastructure are not left out of their line of attack. An event like a tropical cyclone can keep an airport closed for days at a time, grounding thousands of commercial and cargo flights; in the aftermath of Hurricane Harvey, which struck the southeastern coast of Texas in late August 2017, both major airports in the Houston area took days to reopen to

[15] "Climate and disaster resilience: Sustainable energy," UNDP, 2017, http://www.undp.org/content/undp/en/home/climate-and-disaster-resilience/sustainable-energy.html.

[16] "Climate and disaster resilience: Energy access," UNDP, 2017, http://www.undp.org/content/undp/en/home/climate-and-disaster-resilience/sustainable-energy/energy-access.html.

[17] "Climate and disaster resilience: Energy efficiency," UNDP, 2017, http://www.undp.org/content/undp/en/home/climate-and-disaster-resilience/sustainable-energy/energy-efficiency.html.

[18] Hiroko Tabuchi, "UN Climate Projects, Aimed at the Poorest, Raise Red Flags", *New York Times*, November 16, 2017.

[19] "Preparing airports for disasters," UNDP, http://www.undp.org/content/undp/en/home/ourwork/our-projects-and-initiatives/gard/.

any kind of traffic.[20] Without proper preparation in place, an airport in a devastated region may not get back to full operations for some time – much less in a part of the world that is less developed than the American Gulf Coast.

To wit, UNDP has been working to tackle this specific issue in conjunction with private partners. Deutsche Post DHL, a German logistics company, has developed a training scheme with UNDP officials called, appropriately, Get Airports Ready for Disaster, or GARD. It is a series of training courses for airport staff to prepare them for what would happen in the event of a major natural disaster, as well as a study of the airport's existing infrastructure to determine what needs to be augmented or upgraded before a disaster strikes. Deutsche Post DHL and UNDP have partnered in more than 40 GARD schemes across the world since the program was developed in 2009. One success story was the airport in Kathmandu, Nepal, which was the site of the first GARD workshop. UNDP argues that despite a dire humanitarian crisis following earthquakes in 2015, the response was improved because of the GARD program; lessons learned from that experience were discussed in a follow-up workshop at the airport in 2017.[21]

The GARD program is not exhaustive and all encompassing. Instead, it merely addresses one facet of disaster recovery that can sometimes be overlooked in the immediate aftermath of a disaster – as well as, frankly, in the calmer days before such is even anticipated. Governments, on local and national levels, need to create and implement policy to ensure areas of great importance and necessity may obtain needed resources swiftly and efficiently. By partnering with private entities in a variety of sectors – transport, healthcare, public utilities, and the like – as well as by learning from other countries that have had similar issues befall them, member-states can adopt a set of best practices that works for their populations and their countries to aid them in bouncing back from disaster much more quickly and effectively.

The devastation wrought by Hurricane María through broad swaths of the Caribbean spotlighted crisis responses again, particularly regarding power generation and the respective islands' electrical grids. In Puerto Rico, widespread power outages are leading to layoffs and forcing businesses to close.[22] The UNDP is currently advocating for countries to increase funding for programs akin to the World Bank's Global Concessional Financing Facility (GCFC) to assist many countries, particularly middle-income countries such as Antigua and Barbuda who are deemed too wealthy to qualify for non-concessional (shorter term, higher interest loans for example) funding. Gail Hurley, a policy specialist for development financing at the UNDP, argues that "it is

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[20] Ben Mutzabaugh, "Harvey: Houston airports remain closed, cancellations top 6,400," *USA Today*, 28 August 2017, https://www.usatoday.com/story/travel/flights/todayinthesky/2017/08/28/harvey-cancellations-now-above-5-000-extend-into-tuesday/606952001/.

[21] Deutsche Post DHL, "Disaster preparedness program: "Get Airports Ready for Disaster" (GARD)," 30 May 2017, http://www.dpdhl.com/en/responsibility/corporate_citizenship/disaster_management/disaster_preparedness_gard.html.

[22] Lizette Alvarez, "As Power Grid Sputters in Puerto Rico, Business Does Too", *New York Times*, November 15, 2017.

inconceivable that small vulnerable and severely indebted economies at the frontline of climate change (a problem they did not cause) should be expected to rebuild on the back of market-based finance."[23]

International institutions, national and local governments, private firms, and nongovernmental organizations (NGOs) undoubtedly confront costs and pressures in their planning to mitigate and/or prevent disasters but they may all also realize considerable opportunities from said planning. In New York, more effective climate and disaster resilience may dramatically alter and/or disrupt existing zoning laws and real estate holdings, presenting both costs and opportunities.[24] Dutch officials and firms are currently in high demand in countries around the world due to their experiences with, and expertise in planning for, flooding. Rotterdam's system of floodgates and flood mitigation have been studied by port authorities, private firms, and even national military forces from Indonesia, Vietnam, and the United States, amongst others.[25]

Delegates to the UNDP may also wish to examine the UNDP and the international community's responses to previous crises, including in Nepal, the Philippines, Tuvalu and Vanuatu, and to the 2014 Ebola outbreak in West Africa. Furthermore, delegates may also wish to analyze UNDP and international responses to ongoing crises in the Central African Republic (CAR), Haiti, Iraq, Nigeria, Somalia, South Sudan, Syria and Yemen. In a number of instances, the development and installation of "mini-grids," smaller power networks that do not require the same capital investments as national or regional power grids, may provide resilience during and after disasters as well as speed recovery efforts[26]; "mini-grids" should not be viewed as panaceas, however[27]. Properly coordinated and funded crisis planning, prevention and response strategies are essential to ensuring a fairer, greener and more pacific planet.

Gender effects

An often-underreported aspect of dealing with effects of climate on society is the disproportionate impact that may befall women and girls. In developing countries where women and female-identifying persons are in charge of domestic jobs, like food preparation and cultivation, laundry and the like, environmental problems impacting their abilities to carry out those tasks can often have ripple effects that cause difficulty in other spheres as well. For example, the International Fund for Agricultural Development (IFAD) (a specialized agency working with the United Nations System, focusing on eliminating rural poverty), argues the unwillingness of some member-states to effectively combat global warming, either through mitigation strategies or through reducing carbon

[23] Gail Hurley, "Building back better requires supportive international finance", UNDP, October 13, 2017.
[24] David W. Chen, "In New York, Drawing Flood Maps is a 'Game of Inches,'" *New York Times*, January 7, 2018.
[25] Michael Kimmelman, "The Dutch Have Solutions to Rising Seas. The World is Watching," *New York Times*, June 15, 2017.
[26] Amy Myers Jaffe, Lindsay Iversen, & Morgan D. Bazilian, "How Mini-Grids Can Power Disaster Recovery," *Foreign Affairs*, November 9, 2017.
[27] Ted Nordhaus, Shaiyra Devi, & Alex Trembath, "Debunking Microenergy," *Foreign Affairs*, August 30, 2016.

emissions, or to address other forms of environmental degradation, is a form of environmental conflict that can often impact women and girls directly. IFAD notes that global warming leads to a variety of conditions severely impacting the ability of persons to grow or obtain food.

If a community reliant on female-driven agricultural practices has faced environmental catastrophe, the ability of those women to do their jobs is impacted and, in some instances, they could be blamed for problems beyond their control. In a situation where soil becomes less fertile, for instance, crop yields will decline, causing land to become fallow and placing further stresses on those who rely on those lands to survive. In some ways, IFAD suggests this leads to

> […] a] "'downward spiral' or 'vicious circle'. They [the rural poor] are often forced to make trade-offs between immediate household food requirements and environmental sustainability both in production and consumption. Their negligible man-made capital assets, ill-defined or non-existent property rights, limited access to financial services and other markets, inadequate safety nets in time of stress or disaster, and lack of participation in decision-making can result in their adopting 'short time horizons', which favour immediate imperatives over longer-term objectives. This can result in coping strategies that rely on the drawing down of the capital available to them — mainly in the form of natural resources. It also makes them more vulnerable to environmental degradation, including degradation wrought by others than the poor themselves."[28]

It is worth noting as well that, in societies where women are responsible for agriculture and water-gathering (among other domestic jobs), they often have a greater skill base and knowledge set with respect to a local area's environmental needs and concerns, thereby making them invaluable resources in the fight against environmental degradation. UN estimates suggest, depending on the region of the world being discussed, women are responsible for between roughly half and four-fifths of all food production in the developing world.[29] However, whether or not they are heard — or listened to — despite their oversized role in providing for communities often depends on how progressively a society views the role of women, and whether they are seen as equals to men or as subservient.[30]

An unequal playing field

The UN System has made strides in recent years to do a better job at including the needs, experiences and desires of women when crafting new policies and initiatives.

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[28] IFAD, "Combating environmental degradation," http://www.ifad.org/events/past/hunger/envir.html.

[29] UN WomenWatch, "Fact sheet: women, gender equality and climate change," 2009, http://www.un.org/womenwatch/feature/climate_change/downloads/Women_and_Climate_Change_Factsheet.pdf.

[30] UNDP, "Gender and environment and energy," 2017, http://www.undp.org/content/undp/en/home/ourwork/womenempowerment/focus_areas/women_and_environmentalchange.html.

Through the mid-1990s, the UN codified this practice through the policy of gender mainstreaming, which was defined as

> " […] the process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels. It is a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. The ultimate goal is to achieve gender equality.[31]"

The UN System and affiliated partners have worked to include gender mainstreaming into their efforts in addressing environmental conflict, degradation and improvement, to recognize the role women have to play in such. As the UN came to the end of its Policy and Strategy for Gender Equality and the Environment 2014-17, we cannot only assess the goals it set forth and analyze the successes & failures seen as a result, but also determine where further forward progress may be made;[32] additionally, as achieving gender parity by 2030 is one of the UN's Sustainable Development Goals, further work in fostering gender mainstreaming and inclusivity regardless of gender identity is paramount in working toward that goal.[33]

But as a UN report bluntly states, "the threats of climate change are not gender-neutral."[34] Because of entrenched patriarchal structures in both developed and developing countries, women often do not have the same opportunities to be in leadership positions, either within their own households or at local, regional or national government levels, where policies can be enacted to address or mitigate the impact of climate change or other environmental trauma. Take, for instance, the example of deforestation. In much of the developing world, wood-burning stoves are still primary sources of heat both for food preparation and for keeping warm. As deforestation occurs and women & girls must travel farther afield to acquire this fuel, they are not able to spend as much time on other things, be they other domestic responsibilities or, especially for younger persons, educational endeavors.[35]

Because women serve as the primary caretakers for their households in much of the world, they are inherently more susceptible to the spread of infectious diseases coming from environmental catastrophes, both natural and manmade. Changes in climate have caused increases in flooding, both from rising sea levels & tides and from inland waterways like rivers and streams. As these climatological events take place, they run the

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[31] UNEP, "Gender equality and the environment: policy and strategy," citing A/52/3, 18 September 1997, http://apps.unep.org/publications/index.php?option=com_pub&task=download&file=012103_en.

[32] Ibid.

[33] United Nations, "Goal 10: reduce inequality within and among countries," http://www.un.org/sustainabledevelopment/inequality/.

[34] UN WomenWatch, "Women, gender equality and climate change," 2010, http://www.un.org/womenwatch/feature/climate_change/.

[35] —, "Fact sheet: women, gender equality and climate change," 2009.

risk of spreading unclean or untreated water into primary water sources, promoting the presence of waterborne diseases. If a household becomes ill as a result of tainted water, the women of the household may be expected to take care of the other sick persons present, even to their own detriment if they themselves are also ill.[36] With UN estimates showing just over one-tenth of the world's population lives in coastal areas, a major storm or flooding event can have a massive impact on a great number of people, both immediately and later on.[37]

Problems like this — like, arguably, many that befall women primarily and not men — may not come to the attention of (largely male) policymakers because it is outside their general frame of reference. An inability to address issues as they rise can have both disastrous impacts in the short- and long-term, even if "in the long run we are all dead."[38]

Consider the domino effects of the aforementioned example of deforestation in a certain area: increased burning of wood and the removal of carbon dioxide-absorbing trees increases CO_2 emissions & contributes to soil erosion, which therefore make it harder for further agricultural development to take place for future generations. Similarly, the use of wood as a fuel source inside closed quarters, like a home, can lead to respiratory and other health issues, which as stated earlier, tend to be exacerbated among women. Strategies like replanting trees to address deforestation and working to utilize different sources of fuel for heating and for cooking can help mitigate multiple problems at once, with some not being as obviously seen as others.

"It wouldn't be nothing without a woman or a girl"[39]

Involving women in the processes both of mitigating the effects of & adapting to climate change is crucial to ensuring success in fighting the problems themselves. A successful example of a multidisciplinary approach to addressing gender inclusivity and environmental issues is the Green Belt Movement (GBM), which originated in Kenya in 1977. Led by Wangari Maathai, the GBM sought not only to educate women on environmental issues and how they themselves could effect ecofriendly changes in their daily lives, but also to liaise with governments, intergovernmental organizations and nongovernmental organizations to make sure women's voices were included in their deliberations and policymaking on environmental issues.[40] The GBM promotes the replanting of trees to fight deforestation, recycling and reuse efforts in the developing

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[36] Ibid.

[37] United Nations, "Report: inequalities exacerbate climate impacts on poor," 2016, http://www.un.org/sustainabledevelopment/blog/2016/10/report-inequalities-exacerbate-climate-impacts-on-poor/.

[38] Keynes, John Maynard, "The tract on monetary reform," 1923.

[39] Brown, James and Betty Newsome, "It's a man's man's man's world," 1966, King Records.

[40] The Green Belt Movement, "Our history," 2017, http://www.greenbeltmovement.org/who-we-are/our-history.

world, more awareness of development on the surrounding environments, among other goals.

One UN System initiative to further promote gender mainstreaming is the Global Gender and Climate Alliance (GGCA). The alliance was founded during the 2007 Bali conference on climate change and receives funding from different UN organs as well as from the Finnish government.[41] A collaboration between different organs of the UN, businesses and nongovernmental organizations, GGCA provides a direct link between women's advocacy groups and policymakers to foster "top-down perspectives and bottom-up approaches in tandem"[42] in order to make sure all voices are part of the conversation. One recent meeting sponsored by GGCA ahead of 2014's COP20 summit illustrated how integral including women in climate change discussions is, noting nearly one-fifth of the world's people who are food insecure could be assisted simply if women were on an equal foot with men in creating and responding to policy. One such example is simply in terms of disseminating information: in developing areas where access to education is limited for women and girls, notifying them of environmental dangers via sources like newspapers or radios may not be prudent because they may not be as readily available to them. Instead, GGCA recommends meeting people where they need the information, spreading it by word of mouth in places like markets, at water sources, or in agricultural developments like farms to ensure the right audiences hear them.[43]

Access to economic support is also crucial in addressing the issue of gender and the environment. Women's skilled labor in households often does not reap the same kind of economic benefits as collecting a paycheck does. To this end, grant programs exist to assist women with projects and programs that address solving environmental issues. One such program is the conducted through the United Nations Development Program (UNDP) as part of their Small Grants Programme (SGP).[44] The SGP makes an effort to include gender equality as a basis for disbursing grants, ensuring those applying for funding are taking gender into account. Similarly, nongovernmental organizations and charitable groups like the Bill & Melinda Gates Foundation include gender equality as hallmarks of their projects, seeking to improve the lives of women and girls through greater access to education, healthcare and clean water; such multidisciplinary approaches are needed to not only address problems as they arise but to help ensure any future issues will not be exacerbated by a lack of capacity.[45]

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[41] Global Gender and Climate Alliance, "How we are funded," 2017, http://gender-climate.org/how-we-are-funded/.

[42] —, "About the GGCA," 2017, http://gender-climate.org/about-the-ggca/.

[43] CGIAR Research Program on Climate Change, Agriculture and Food Security, "How to create climate change policies with a gender focus?" 8 December 2014, https://ccafs.cgiar.org/blog/how-create-climate-change-policies-gender-focus#.WHvQZrYrJFQ.

[44] The GEF Small Grants Programme, "Mission and history," 2012, https://sgp.undp.org/index.php.

[45] UNDP, "Gender and environment and energy," 2017.

Masters of disaster

When disaster strikes, how do governments and nongovernmental organizations (NGOs) know how to respond most effectively? Plans must be put in place before disaster strikes in order to effectively manage their aftermaths, lest nation-states be left scrambling. This is one area where UNDP officials have played an important role: preparedness. Since 2008, the UN Development Group, in association with the World Bank and the European Union, have created a framework for countries to use when coordinating disaster response. The Post-Disaster Needs Assessments (PDNAs) are a series of criteria, ranging from fixing a public education system to reestablishing livestock farming after disaster, allowing officials to quickly determine what sectors of their societies and their economies are most impacted, and what areas need the most immediate assistance. The PDNAs are revised and updated every three years to make sure they are at their most effective, and are used in conjunction with Disaster Recovery Frameworks, a further set of guidelines and instructions "intended to coalesce international and local support behind a single, government-led post disaster recovery process."[46] UNDP suggests implementing these kinds of protocols can have long-lasting positive effects, such as

> "strengthening capacities to carry out needs-assessments allow a country to quickly determine human, economic and infrastructure needs in the event of a disaster; putting in place information sharing and participatory systems strengthens the community ties to the recovery process; better recovery planning allows communities to identify innovative solutions for expected challenges, such as the provision of social services; and enhanced institutional coordination and information management expedites early action that enables well-planned, well-executed reconstruction and recovery."[47]

While natural disasters have immediate, sudden impacts on a society, other hidden costs, like loss of economic development, are not as readily apparent. But some countries are disproportionately impacted by natural disasters: those that are already in the developing world. Take Haiti, for example. UNDP data estimate roughly two percent of Haitian gross domestic product (GDP) is lost every year because of the aftereffects of natural disasters. Then, consider the impact of the 2010 earthquake that killed more than 200,000 people. Haiti lost the equivalent of 120 percent of its GDP as a result of the earthquake, making recovery that much more difficult. After the earthquake, UNDP officials worked with the Haitian government and with private citizens on a variety of efforts to build Haiti back up again, ranging from creating temporary jobs to removing wreckage & debris. Land was reforested, in an attempt to prevent or otherwise mitigate the effects of landslides or flooding after future disasters.[48] UNDP then used its

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[46] UNDP, "Post-disaster needs assessments," 26 September 2014, http://www.undp.org/content/undp/en/home/librarypage/crisis-prevention-and-recovery/pdna.html.

[47] —, "Recovery preparedness," http://www.undp.org/content/undp/en/home/climate-and-disaster-resilience/disaster-recovery/recovery-preparedness.html

[48] —, "Eight years after the earthquake," 12 January 2018, http://www.undp.org/content/undp/en/home/news-centre/announcements/2018/eight-years-after-the-earthquake--haitians-need-support-to-boost.html.

knowledge gained following the earthquake in Haiti as a learning experience for future disasters — chiefly, Hurricane Matthew in 2016. UNDP knew what kinds of tactics would work most effectively in Haiti having worked there previously and set out to carry out many similar recovery projects as were completed in 2010. Temporary housing was built; jobs were created; land was reforested. Perhaps most interestingly, UNDP worked closely with health officials to mitigate the spread of disease and to treat those already infected after Hurricane Matthew, having learned from the cholera outbreaks in Haiti after the 2010 earthquake. Additional drugs were brought into Haiti to combat HIV/AIDS and the spread of tuberculosis, helping keep both diseases under control.[49]

In many ways, the work of UNDP and its partners in addressing disasters helps to fulfill the UN System's Sustainable Development Goals. For example, current UNDP action in Somalia is meant to address the potential for famine in that country and across the Sahel. Somalia declared a state of emergency in January 2017 due to drought conditions and expressed concern the drought would lead to food shortages. However, famine was averted in the country thanks in part to a coordinated effort between the UN, the World Bank and the European Union, who collectively contributed aid and resources to Somalia to head famine off. A year after the state of emergency was declared, officials met in Mogadishu to call for additional aid and support to not only continue to prevent famine from taking hold, but to increase capacity building in Somali society and in its government. Interdisciplinary approaches to disaster response have a dual-pronged effect: immediate needs are addressed and met in the wake of catastrophe, and longer term goals are met to attempt to mitigate the impact of any future disaster that could have similarly deleterious effects on a country's society.[50] Similar efforts are currently underway in Ethiopia as well, which is experiencing drought conditions as well, but lacks some of the institutional capabilities Somalia has demonstrated in combating drought. UNDP officials traveled to Ethiopia in early 2018 in an effort to raise awareness for that country's struggles and also to try and share strategies learned from the missions in Somalia for Ethiopians to adapt and use in their own struggles.[51] By collaborating and by sharing information from one disaster's recovery to another, nation-states are able to learn from each other's experiences to help their own people in the event of catastrophe, thereby — in some instances — learning from their neighbors' mistakes.

Another area of focus in the field of disaster recovery comes from addressing issues borne from refugee crises. Take, for instance, the Syrian Civil War and the scores of people who have been displaced, either internally or externally, as a result of continued fighting. UNDP sees war and conflict as a similarly impactful situation to natural disaster, leading some to use its strategies in coping with the latter in addressing the

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[49] —, "Haiti: from recovery to sustainable development," http://www.undp.org/content/undp/en/home/crisis-response/on-going-crises/haiti.html.

[50] UNDP, "Somali leaders and the international community determined to make Somalia famine resistant," 30 January 2018, http://www.undp.org/content/undp/en/home/news-centre/news/2018/Somali-Leaders-and-the-International-Community-Determined-to-Make-Somalia-Famine-Resistant.html

[51] —, "UN humanitarian and development chiefs' mission to Ethiopia, 26 January 2018, http://www.undp.org/content/undp/en/home/news-centre/announcements/2018/UN-Humanitarian-and-Development-Chiefs-Mission-to-Ethiopia.html.

former. UNDP officials are working Syrian officials in crafting PDNAs specifically for early childhood education, as it is estimated more than 40 percent of Syrian refugees of school age remain out of classrooms. UNDP is working to raise more money for this particular crisis to help address its needs and learning from its experiences in Syria for future conflict zones in which it may have to work.[52]

Conclusion

Addressing the issues of resilience in light of changes to the climate and in light of natural disasters is a key focus of UNDP going forward. But not all elements of recovery and resilience are as readily visible as simply cleaning up after a hurricane or earthquake hits. Capacity building is a paramount goal to ensuring any further issues from future disasters are addressed properly; this includes elevating women and girls to equal roles in disaster preparedness and planning, and making sure clear, concise strategies are in place in the event of a disaster. Through work like this, the international community and the UN System can ensure a more effective response to these issues, thereby improving living conditions for countless generations to come.

Guiding questions

How prone is your country to natural disasters? When was the last time that your country suffered from the impact of a natural disaster? How severe was the disaster and how did your national and local governments, civil society partners, and nongovernmental organizations (NGOs) respond? What was the response of the UN System, relevant regional organizations and international financial institutions (IFIs)?

What effect would a changing climate have on your country? Has your country already observed impacts due to climate change? How is your country, and the relevant governmental and societal institutions, responding to climate change?

How developed are your country's institutions on social, political and economic levels? Within your government, which agency(ies) is/are tasked with disaster planning, preparation and climate and/or disaster resilience? How effectively has/have this/these government agency/ies responded to climate and disaster impacts?

How does your country fare in terms of gender equality? How has this overall situation of gender (in)equality affected climate and disaster resilience?

Resolutions and Related Documents:

United Nations General Assembly resolution 72/225, (A/RES/72/225), "Combating sand and dust storms," December 20, 2017.

[52] —, "UN and partners launch plan to support over five million Syrian refugees and countries hosting them," 12 December 2017, http://www.undp.org/content/undp/en/home/news-centre/news/2017/un-partners-plan-support-for-syrian-refugees-host-countries.html.

United Nations General Assembly resolution 72/218, (A/RES/72/218), “Disaster risk reduction,” December 20, 2017.

United Nations General Assembly resolution 71/230, (A/RES/71/230), “Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030,” December 21, 2016.

United Nations General Assembly resolution 71/227, (A/RES/71/227), “Effective global response to address the impacts of the El Niño phenomenon,” December 21, 2016.

United Nations General Assembly resolution 71/128, (A/RES/71/128), “International cooperation on humanitarian assistance in the field of natural disasters, from relief to development,” December 8, 2016.

United Nations General Assembly resolution 71/125, (A/RES/71/125), “Persistent legacy of the Chernobyl disaster” December 8, 2016.

United Nations, 70/282, “Implementation of the International Strategy for Disaster Reduction,” August 4, 2015.

United Nations General Assembly resolution 63/217, (A/RES/63/217), “Natural disasters and vulnerability,” February 18, 2009.