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Fellowship Capstone | Policy Brief

Artificial Intelligence Applications in Humanitarian Crises

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I. Executive summary

A humanitarian crisis is an event or series of events that results in the threat of the health and safety of a large population of people. In order to maintain humanitarian assistance operations, digital technologies can be used to aid in crisis mapping. This brief will address the potential of computational applications in humanitarian operations, the challenges that such implementation faces, and the suggested policy frameworks.

II. Overview

Humanitarian Crises is an issue that is encompassed within Foreign Policy due to the nature of human displacement that occurs. Such crises can be a result of man-made conflicts, natural disasters as well as pandemics. A humanitarian emergency results when vulnerable populations are affected by the potential causes aforementioned. Characteristics of humanitarian emergencies are large-scale violence and a loss of life, population displacements which can occur within the borders of a nation or transnationally, the prevention of the provision of humanitarian assistance due to natural disasters, political and military barriers, and a requirement for extensive humanitarian assistance. In response to the listed challenges and limited access to human resources, digital technology can be a beneficial tool to assist affected populations. Increasing the provision of large data sets and the access to said data has allowed for greater use of digital technologies. More specific digital technologies including crisis mapping, satellite data, and Artificial Intelligence (AI) combined with increased access to data along with the creation of algorithms that can aid in humanitarian assistance, however, there are many policies that need to be put in place to maintain inclusivity with the implementation of technology tools. It is crucial to ensure data privacy is maintained and inequalities do not arise.

A. Relevance

By the end of the year 2024 UNHCR estimated that 123.2 million people were forcibly displaced as a result of conflict and human rights violations. 1.6 million refugees were reported to return to their home countries however, 92% of those refugee returns were only within four countries including Afghanistan, Syria, South Sudan, and Ukraine. Even upon their return, those individuals are often faced with unemployment, food insecurity, and poverty. In spite of the positive aspect that is in reducing human displacement, there are also many issues that must be addressed in the aftermath. Furthermore, these numbers show that there are still people who have been unable to return to their country of origin, not including the four countries mentioned previously.

III. History

A. Current Stances

In addition to the evolution of humanitarian crises, humanitarianism and the technologies used to address these issues have also shown to evolve. The idea of humanitarianism has always proven to be a natural instinct of human character. Altruism and self-sacrifice has been an underlying principle within early religions and philosophies. Henry Dunant, humanitarian and social activist, can be attributed to the beginnings of the Red Cross after witnessing the aftermath of the battle between the French and Austrian armies in the town of Solferino in the year 1859. The Treaty of Versailles was signed in 1919, organized by the League of Nations in order to prevent war, however, it also addressed protections for populations that were affected by conflict.

As time has continued, it is to be observed that crises have progressively become more exasperated and worse, not necessarily due to a lack of technological resources and development to tackle these issues, but rather the implications of complex political relations, how much publicity is given to the situation, new strains of diseases, climate change greatly impacting lesser developed regions, political conflict, and an exceeding number of other issues hindering the benefits of humanitarianism. We are finding ways to actively prevent and drastically mitigate the effects of crises rather than find provisional substitutes. Between the years 2009 and 2014, crisis mapping has emerged as a beneficial tool in providing the complex depiction of a humanitarian emergency in order to improve responses to such disasters. In securing satellite images, videos, incident data, and other forms of documented data, crisis mappers can piece together an image of the disaster. With the vast amounts and variations within this data, natural language processing (NLP) and machine learning algorithms can assist in the integration of the data and in creating a more systematic response to humanitarian aid.

IV. Policy Problem

A. Stakeholders

The primary stakeholders in addressing crisis management are refugees and internally displaced persons (IDPs) as the process of facilitating a safe return home is prioritized in addressing humanitarian crises. These stakeholders are most vulnerable economically, politically, and socially. As refugees have crossed international borders, international communities including the United Nations are able to provide international assistance and protection, as well as the host country refugees reside in. As internally displaced persons still reside within their own country, they are able to receive international assistance, however, there is no international law that directly covers the protection of IDPs. This touches on the growing priority of the localization of humanitarian action.

Affected States and governments are also stakeholders as it is their primary goal to provide adequate support and the economic and political spheres also stand to benefit from the mitigation of existing crises. NGOs and humanitarian organizations, as well as private technology

companies are also stakeholders in the provision of assistance.

B. Risks of Indifference

The risk of indifference to humanitarian crises results in a lack of adequate funding and resources that displaced persons require including food, clean water, safe shelter, and medical assistance. Limited access to healthcare resources and sufficient water and food results in increased mortality rates among displaced individuals. If stakeholders including governments, NGOs and humanitarian organizations continue to neglect the process of providing adequate assistance to refugees and IDPs, this perpetuates the cycle of the "lost generation" where there is a lack of educational opportunities for youth who are impacted by humanitarian crises thus hindering future development and also directly impacts future economic growth for stakeholder States and governments that are affected. There are also psychological impacts as a result of indifference, including desensitization which results from repeated exposure to images and media often leading to compassion fatigue as well as a loss of hope for victims of displacement.

C. Nonpartisan Reasoning

Nonpartisan reasoning and policy that is internationally recognized is crucial for the provision of humanitarian aid. Nonpartisan policy responses should also focus on being nondiscriminatory and should diverge away from already existing inequalities for groups that are most at-risk or marginalized.

1) Maintaining neutrality and impartiality in providing aid to displaced persons: Ensuring that aid is provided that is distinct from political motivation, economic development, and military objectives. Prioritizing the benefit of the State over the population in need of support results in the compromise of the ability for humanitarian organizations to provide and gain access to resources. With partisan reasoning and a greater influence from the prioritization of State interest, this leads to the rights of displaced individuals becoming a peripheral issue under the authority of the State. This can result in discrimination in the provision of humanitarian assistance based on the political opinions and loyalty to the State.

2) Emphasis on the principles of humanity: An underlying principle that should define the main goal of humanitarian aid and provision is in trying to alleviate suffering wherever it is found and should help vulnerable communities and individuals. This follows the concept of "do no harm" followed by the UNHCR to ensure that measures are taken to both prevent and mitigate detrimental circumstances affecting refugees and IDPs. While the States that are affected by crises hold much of the primary responsibility of alleviating suffering, stakeholders such as humanitarian organizations also must complement and support the responsibilities of the State while maintaining neutrality especially in crises involving military and political conflict.

V. Tried Policy

Existing policy frameworks and approaches

provide valuable lessons and gaps:

1. Cross-sectoral coordination led by humanitarian agencies and NGOs allows for transparency, a greater focus on resources.
2. Promote integrated strategies for disaster risk reduction, early warning, and harmonized continental policies addressing cross-border and internal displacement through access to data and databanks as demonstrated through the Humanitarian Logistics Data Bank established by Dubai Humanitarian.
3. Temporary Protection & Humanitarian Visas: Flexible legal status for refugees and IDPs displaced by disaster or conflict, but often inconsistently implemented.

Inclusion of affected communities in decision-making is essential both ethically and for better outcomes

I. Policy Options

Policymakers can strengthen responses by considering the following options:

Enhance Early Warning/Preparedness: Systematically integrate digital tools, including AI, for anticipatory action, but ensure robust oversight of privacy, bias, and accountability risks.

Strengthen Protection Instruments: Broaden and harmonize access to temporary protection, humanitarian visas, and safe migration pathways for disaster-affected populations.

Mainstream Non-Discrimination: Mandate active strategies to dismantle barriers to assistance, protect vulnerable groups, and promote inclusion in policy design and monitoring.

I. Conclusions

In the paper, I have explored the intersection of many issues and policy options that arise in the mitigation and prevention of humanitarian crises with the use and monitoring of databases, computational tools and State and organization policy. While computational technologies such as AI are invaluable to humanitarian response in the present day, their impact depends on principled, and inclusive policy frameworks. Placing human rights, local ownership, and nonpartisan reasoning at the center, as well as technological innovation, offers the most stable path to mitigating displacement and supporting durable solutions for affected populations.

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