

CRISIS GOVERNANCE IN THE AGE OF CLIMATE CHANGE AND AI

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With Artificial intelligence (AI) changing at an increasingly rapid pace and climate change worsening, governments and institutions are confronted with challenges unlike ever before. The intersection of AI-caused problems—such as AI-driven misinformation and automation—with increasing climate catastrophe and new space-based threats requires sound crisis governance. On one hand, where AI has helped in forecasting such climate disasters and revolutionized decision-making, on the other hand, climate issues demand swift and coordinated global responses. The article reviews present government responses to these complex crises and assesses our readiness for what is coming next.

AI-Induced Misinformation: A Growing Threat

The spread of AI technologies has made content creation more democratic which has allowed the creation of hyper-realistic images, videos, and narratives. Although this democratization is good for creativity, it also promotes the spreading of misinformation and disinformation. A prime example that can be taken from the following is the targeting of AI chatbots by Russian disinformation efforts, spreading false information and propaganda to influence public opinion. Governments have taken up several such initiatives to respond to AI-based misinformation in countries like Spain, the USA, and the Philippines.

In Spain, the Spanish authorities sanctioned a law imposing huge penalties—a maximum of €35 million or 7% of a firm's worldwide yearly turnover—on companies

that do not label AI-generated content. The law conforms to the European Union's AI Act [Reuters].

In The United States, several States have enacted regulations addressing AI's role in elections. California, for instance, implemented a law banning the distribution of deceptive AI-generated political content, introducing civil penalties for violators.

Along with that in The Philippines, the Commission on Elections (COMELEC) issued guidelines mandating political candidates to disclose AI usage in campaign materials and prohibiting the technology's use to spread misinformation against opponents.

With these initiatives, the fast-paced development of AI presents serious challenges to regulatory models, requiring constant adjustment and cross-border cooperation in order to manage the risks presented by AI-based misinformation effectively.

Automation and Employment: Managing Economic Disruptions

The incorporation of AI and automation into different sectors has reshaped labour markets, with both opportunities and disruptions. While automation increases productivity, it can also lead to job displacement and increased economic inequalities. Governments have implemented various strategies to meet these challenges which are reskilling and upskilling programs, most nations have initiated programs to reskill workers impacted by automation. These programs emphasize preparing people with skills applicable to new industries.

Social Safety Nets, increasing unemployment compensation, and testing universal basic income pilots have been under consider-

ation to protect people during the transition of jobs due to automation. Reforms in education, incorporating AI and digital literacy into school curricula ready generations to come for an AI-driven labour market. The success of these actions is not uniform which requires regular evaluation and it is important to make sure policies also evolve with the changing employment implications of AI.

Climate Disasters: Preparedness and Response

The occurrence and magnitude of climate-related catastrophes have intensified, placing the necessity for sound crisis management into high gear. These have been exacerbated by wildfires, hurricanes, and floods which has put governmental and institutional actions to the test.

Issues of current readiness criticized include inadequate adaptation strategies. Authorities contend that measures to avert climate change have been unsuccessful for most of the part, and adaptation strategies are now imperative. Increasing flood resilience, building infrastructure, and creating integrated adaptation plans are all necessary. Budgetary shortfalls and economic constraints prevent effective climate adaptation interventions. A report by the United Nations Environment Programme (UNEP) identifies significant financial gaps in adaptation efforts. Policy Reversals and funding cuts for essential disaster-prevention initiatives like tsunami warning systems have also concerned national resilience. For instance, Elon Musk's DOGE agency was criticized for removing provisions necessary to contain disastrous risks.

To advance preparedness, governments need to prioritize climate adaptation in addition to mitigation efforts so that infrastructure, emergency response networks, and communities are resilient against mounting threats.

Space-Related Risks: Navigating Emerging Threats

With human activities expanding into space,

new threats arise, such as space debris, satellite collisions, and the weaponization of space technology. These threats need to be addressed through concerted international efforts to ensure the peaceful and sustainable use of outer space. Efforts to address space-related risks include initiatives such as UN-SPIDER (United Nations Platform for Space-based Information for Disaster Management and Emergency Response), which supports the application of space-based technologies to disaster management. Another initiative is the International Charter "Space and Major Disasters," a partnership that offers a coordinated system of space data acquisition and delivery to assist in disaster management.

However, there are challenges in responding to space-related threats. One significant issue is space debris, where the concentration of dead satellites and debris creates collision hazards, endangering both manned and unmanned flights. Cooperation is necessary to formulate effective debris reduction strategies. Another challenge is the weaponization of space, as the creation of anti-satellite weapons raises concerns about an arms race in space. This intensifies the need for international regulations to prevent the escalation of conflict. The accelerated commercialization and automation of space further underscore the imperative for more robust governance frameworks to address these emerging risks.

Are We Ready? Assessing Global Readiness

Governments and institutions have started taking steps to mitigate AI risks from misinformation, automation, climate catastrophes, and space risks, but there is still a wide range of gaps. One major challenge is regulatory lag, Legislation and policy cannot keep up with AI innovation, which leads to loopholes in governance.

[a] Regulatory lag is caused when the laws fail to keep pace with rapid advancements that are made in or by AI, automation and climate change, and space technologies due

to either bureaucratic delays or political conflicts, and limited expertise in the concerned area. This results in unchecked AI misinformation that's circulated around, job losses, inadequate climate adaptation, and an increase in space risks. Adaptive and forward-thinking policies are crucial to managing these emerging challenges effectively and they must ensure long-term stability.

Another key challenge is financial constraints. Most climate adaptation and space governance efforts lack proper funding which leads to either the failure of the project or the fulfilment of it is not up to the mark. [b] Budgetary concerns arise because crisis governance deals with urgent priorities that exist such as healthcare and defense. AI regulation, climate adaptation, and management require massive investments but lack funding. Developing nations struggle with financial shortfalls, where high-tech solutions and space security remain costly. Due to this lack of sustained investment, governments have no choice other than to risk being unprepared for AI-driven misinformation, automation, and climate disasters.

Furthermore, the problems of the world require collective solutions, but geopolitical rivalries stand in the way of collective action. These rivalries hinder the path of the solutions that can be achieved by collective cooperation and support.

Recommendations for Strengthening Crisis Governance

To strengthen crisis governance, several measures are necessary. Firstly, Innovative AI Regulations- governments need to regularly revise regulations on AI to meet misinformation and economic disruption due to automation. Secondly, Climate-Resilient Policies- additional investment in disaster response and adaptation systems is the need of the hour. Thirdly, in Space Governance Frameworks, the global community needs to legally bind agreements pertaining to space junk management and the control of weapons. Lastly, Public Awareness and Education- improving digital literacy and public aware-

ness of disinformation, climate change, and space threats will enable citizens to make informed choices and better learning will also provide for the betterment of future generations.

Conclusion

The convergence of AI-driven misinformation, automation disruptions, climate disasters, and space risks demands urgent and decisive actions. Current governance structures are struggling to keep pace due to which societies are left vulnerable to escalating crises. Governments must act now by strengthening AI regulations, investing in climate adaptation, and enforcing space governance frameworks. The most essential requirements that safeguard our future are international cooperation, proactive policymaking, and sustained financial commitment. AI regulations must be adopted in a way by governments that there should be strict majors for AI usage which should be monitored to escape the danger of losing the war against it.

In order to escape climatic disasters, the Government should encourage the citizens to adopt sustainable behaviour towards the planet and invest in regulations that deal with better prevention of such natural disasters.

The time for reactive governance is over and the leaders must prioritize resilience adaptability, and innovation to confront the challenges ahead. Though governments have been taking several measures, gaps identified point to the need for more proactive and flexible approaches. Enhanced regulations, increased international cooperation, and long-term resilience investment will be important in making sure that humanity is resilient enough to handle the crises of the future. AI regulations and an increase in government cooperation at the global level could also help in the betterment of the situation and provide for less risk of crisis occurrence in the upcoming years and make the world a lot more safer than now for the upcoming generation.