ADMM Cybersecurity and Information Centre of Excellence

UPDATE ON THE INFORMATION DOMAIN

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Misinformation and Disinformation during Natural Disasters

INTRODUCTION

1. The rise of social media in the digital world has transformed the way information is shared during a natural disaster. The widespread use of social media is a double-edged sword – while it assisted response teams with data collection, communication, fundraising, and coordination of HADR efforts, there are also a number of drawbacks. For example, mis- and dis-information has become an emerging vulnerability in Humanitarian Assistance and Disaster Relief (HADR) efforts. The availability of clear and accurate information is crucial for the safety and well-being of affected communities during a natural disaster. The United Nations Office for the Coordination of Humanitarian Affairs (OCHA) identified the first 72 hours after the occurrence of a disaster as crucial for responders to save the lives of disaster victims. The spread of mis- and dis-information can delay or even paralyse the decision-making capabilities of emergency response teams, exacerbating the disaster's impact, leading to confusion, panic, and even loss of lives. Such concerns are pertinent for many militaries which play important roles in the provision of HADR. Militaries should therefore be aware and be prepared to address such misinformation and disinformation threats.

IMPACT OF MIS/DISINFORMATION ON HADR

2. The potential areas where misinformation and disinformation can undermine HADR efforts includes:

a. Public Confusion. In the aftermath of a disaster, confused and well-meaning victims may unknowingly and unintentionally share unverified, outdated or false information. The dissemination of conflicting reports about the disaster, available resources, or recommended safety measures can leave citizens unsure of what actions to take.

b. Resource Misallocation. Emergency services may be diverted to respond to non-existent threats or hoaxes, leaving real emergencies without adequate support.

c. Loss of Trust. Repeated exposure to false information can erode the public's trust in official information sources, making it more difficult for authorities to communicate effectively during a natural disaster.

d. Increased Vulnerability. Vulnerable populations, such as the elderly or those with limited access to credible information, may be more susceptible misinformation and disinformation, potentially putting their safety at greater risk.

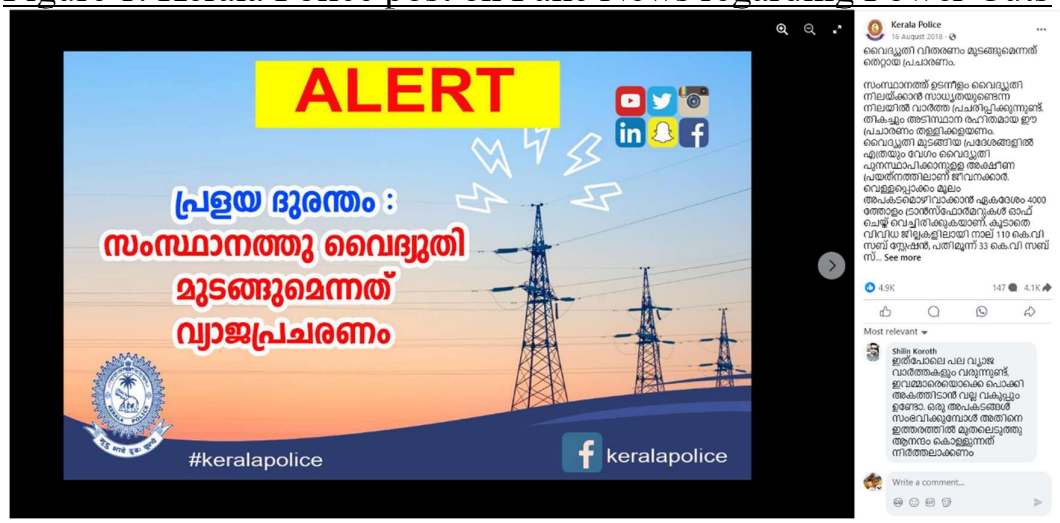
KEY CHARACTERISTICS

Social Media as the main conduit of Misinformation

3. Misinformation spread via social media appears to be the main conduit for misinformation. The high penetration of internet and social media across the world has had HADR responders scrambling to respond to instances of fake news. For example, during the 2018 floods in Kerala, several instances of misinformation went viral on social media in the Indian information space. This included an audio

file where an unidentified man claimed falsely that a major dam had began leaking due to the floods and could collapse, and urged residents to evacuate. The man on the recording further claimed that this information had come to him from a "friend" of his in the Indian Prime Minister's Office, which was allegedly suppressing this news. Another set of posts shared via WhatsApp claimed that the Kerala State Electricity Board had sent out an alert that they were shutting off the electricity across Kerala, sparking widespread panic and overwhelmed emergency rescue hotlines. This prompted authorities such as the Kerala Police to issue advisories online to try and calm the panic and reassure people that power would continue to be provided (Figure 1).

Figure 1. Kerala Police post on Fake News regarding Power Cuts



4. While such propagation of misinformation may have been sparked by well-meaning but misinformed citizens, malicious actors may also misuse social media during a natural disaster to spread disinformation and sow confusion among the public. These actors capitalise on people's fears and suspicions during such stressful periods to seed fake news and conspiracy theories, and weaken their trust in the local government. During the wildfires disaster on the Hawaiian island of Maui in 2023, unsubstantiated rumours and conspiracy theories on the cause of the fires were circulated. These ranged from the use of energy beam weapons from the US government and foreign governments to start the fires, to unsupported claims that

wealthy real estate investors looking for a cheap land grab had caused the blaze. Even several months after the fires, US Senator Mazie Hirono went on record that disinformation had discouraged residents from seeking help from the federal government in the aftermath of the fire. For example, one of the false narratives that went viral alleged that the US Federal Emergency Management Agency (FEMA) would confiscate the property of citizens who applied for disaster assistance, if FEMA deemed their property unliveable. This prompted FEMA to issue a specific public release to deal with the disinformation.

Disasters as an Avenue for Foreign Influence

5. Foreign influence actors would also find the chaos and mistrust during a disaster offers unique conditions and opportunities to launch influence campaigns. This could be used to drive wedges across societal fault lines and create rifts between civilians and their government. When Japan planned to discharge treated water from the Fukushima Daiichi nuclear power plant into the sea in Aug 2023, it faced a deluge of fearmongering disinformation. This came despite assurances from the International Atomic Energy Agency, the nuclear watchdog, that the discharge of treated water would have a negligible impact on the environment. OpenAI, the developer of artificial intelligence chatbot ChatGPT, reported instances where users had used its technology to generate articles that accused Japan of damaging the marine environment by releasing waste water from the Fukushima power plant. Several countries subsequently implemented seafood shipment controls against Japan, which fuelled resentment by local fishermen as it had a direct impact on their livelihoods.

6. Similarly, in the aftermath of 2022's Hurricane Ian in the US, the footage of a shark swimming through a flooded highway resurfaced on social media. The footage was a doctored video, and had surfaced in 2011 following after a different hurricane. Sputnik, a Russian-affiliated news outlet, used this image to portray the US' disaster response as inadequate during Hurricane Ian, and assert that the US had abandoned its civilians.

Use of Artificial Intelligence (AI)

7. The use of generative AI to create content has made it increasingly difficult to identify inauthentic content. The ability to discern between genuine and false information is important during a disaster, as inaccurate information can impede rescue and relief efforts and cost people their lives. In recent years, HADR responders have increasingly used social media-based feeds to help locate and identify those who need aid, as well as to distribute survival and medical information. For example, Facebook Safety Check allows those affected by a disaster to register themselves as "safe" on the platform, which helps clear the situation picture for first responders and help them determine where aid is needed more. The rise of false information threatens to hinder effective disaster response. For example, during the 2023 eruption of Mount Marapi in Indonesia, video clips of volcanic eruptions unrelated to the actual eruption spread virally on social media. One example which was viewed about 1.2 million times, turned out to be computer generated footage. Similarly, a study by the University of Seville found that during the 2023 Turkey-Syria earthquake, an estimated 8% of images among the mis/disinformation posts were found to be manipulated. The massive floods in Brazil in May 2024 saw a similar prevalence of AI-generated imagery (see Figure 2) that went viral. This suggests a rising trend of AI-generated imagery appearing during a disaster in future.

Figure 2. AI-Generated Image that went viral in Brazilian social media

CONCLUSION

8. The presence of post-disaster mis/disinformation is not new and is expected to increase over time. As ASEAN militaries prepare for subsequent disasters, they will need to be prepared for the potential threats of mis/disinformation confusing their situational awareness or stoking unrest and discontent among the affected population. A strong disaster response plan should involve measures and planned responses to such instances. A well-thought-out communications plan can help quickly refute mis/disinformation and leave HADR practitioners free to focus on saving lives without having to deal with the added effort of countering disinformation and false narratives. Effective crisis communications should also include the use of social media, and leverage on their immediacy and speed to communicate accurate

information, while also monitoring them for the germination of disinformation and bad narratives. Finally, countries can also support each other by exchanging information and best practices to better prepare for such threats.

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CONTACT DETAILS

All reports can be retrieved from our website at www.acice-asean.org/resource/.

For any queries and/or clarifications, please contact ACICE at ACICE@defence.gov.sg.

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