RISK COMMUNICATION AND COMMUNITY ENGAGEMENT ON THE COVID-19 PANDEMIC IN INDONESIA

[1]Nani Kurniasari*
[2]Sharifah Nadiah Syed Mukhiar
[3]Suriati Saad
[1,2&3] School of Communication
Universiti Sains Malaysia
[1]nani.kurniasari@student.usm.my

Abstract: Governments worldwide struggled with effective responses to the COVID-19 pandemic. Indonesia, with its vast geography of 17.000 islands and a population of over 273 million, required significant support to manage the outbreaks. The Risk Communication and Community Engagement (RCCE) approach was introduced to assist in the early stages of the response. The Indonesian RCCE working group was formed in February 2020, bringing together national and international agencies, government representatives, UN organizations, and civil society to address the crisis. This research examines the role of RCCE in Indonesia's COVID-19 response from the perspective of Non-Governmental Organizations (NGOs), using a constructivist paradigm and a qualitative approach with case studies. Data was collected through semi-structured in-depth interviews with three key informants: the founder of Lapor COVID-19, a key member of Mafindo, and the initiator of Pandemic Talks, all central to the RCCE initiative. Lapor COVID-19 provides critical information, Mafindo combats misinformation, and Pandemic Talks raises awareness about health practices. Thematic analysis of their perspectives highlights the need for strong government collaboration with stakeholders to sustain community engagement, foster cooperation, and manage the infodemic. Applying RCCE principles—such as community engagement, interagency communication, and addressing misinformation—is essential for mitigating public health crises. These findings are crucial for preparedness and response, serving as a guide for developing RCCE strategies to address potential public health crises, where clear communication, trust-building, and coordinated action are vital for achieving successful outcomes.
Keywords: COVID-19 pandemic, government crisis and risk communication, RCCE, public health crisis, thematic analysis

INTRODUCTION

Governments around the world have demonstrated their ineffective responses to the COVID-19 pandemic public health crisis. The world was finally able to draw lessons from past experiences in managing public health emergencies with the end of the COVID-19 pandemic, which turned endemic. As a huge country with 17.000 islands (Fajri, 2022) and a population over 273 million people (Kemendagri RI, 2022) in 38 provinces (Putri, 2022), Indonesia undoubtedly require assistance from various sources to manage this outbreaks. It includes relevant communities who are concerned with spreading information about the COVID-19 pandemic and actively educating society on how to deal with the public health crisis in Indonesia.

Risk communication is a fundamental element of a sound risk management framework that seeks to reduce future losses and damages from disasters (OECD, 2016). It is the real time exchange of information, advice and opinions between experts, community leaders, officials and the people who are at risk and it is an integral part of any emergency response (*World*

Health Organization, 2023). The aforementioned information includes the nature of risk as well as non-risk messages that reflect worries, opinions, or reactions to have an effect on legal or institutional risk management structure (Sellnow et al., 2009). Suitable risk communication processes foster the trust and confidence that are essential in a crisis (Covello et al., 2001). Inadequately planned risk communications tend to create new risks and compromise the efforts towards managing a disaster (Khan et al., 2022).

Community engagement is a way of working with traditional, community, civil society, government, and opinion groups and leaders that facilitates their active participation in addressing the issues that affect their lives. Community engagement empowers social groups and social networks, builds upon local strengths and capabilities, and increases local participation in finding solutions that they can adapt and have ownership over (UNICEF, 2024). In the end, successful community engagement creates a trusting connection that gives communities the confidence to use the tools in place to identify and address their most pressing problems.

Risk Communication and Community Engagement (RCCE) is an approach designed to assist governments in the early stages of the COVID-19 response. RCCE refers to the methods and strategies used to actively consult, involve, and communicate with communities that are at risk, or whose actions influence risk levels. RCCE seeks to motivate, empower, and engage stakeholders in preventing, preparing for, and responding to public health emergencies through community-focused strategies. RCCE aims to encourage individuals to adopt practices and behaviours that reduce risks, while fostering community-driven solutions to address the health and social impacts by empowering people and supporting their active involvement (Samhouri et al., 2024). Table 1 shows RCCE guiding principle.

Table 1: RCCE Guiding Principle

Nationally-led	RCCE implementation is the responsibility of national governments, supported by civil society and communities. As signatories to the International Health Regulations, WHO Member States must ensure risk communication is a key function.
Community-centred	Effective RCCE begins with understanding the knowledge, needs, and vulnerabilities of different groups, allowing for tailored approaches and better outcomes. A holistic, humanitarian approach is needed, addressing not just COVID-19 risks but also issues like protection, water, sanitation, economic stability, mental health and broader development concerns.
Participatory	Communities, especially at-risk or vulnerable groups, should take the lead in analysing, planning, designing, implementing, monitoring and evaluating RCCE activities. If they lack the capacity, response partners, including local civil society, can support the process using participatory approaches.
Trust building	Community trust in governments, institutions, pandemic response organizations is crucial for outbreak control, as trust in scientific advice and recommended behaviours. Mistrust stems from structural, historical and cultural factors, and understanding these is essential for building trust.
Open and transparent, even in uncertainty	Timely, science-based communications tailored to the audience's local context, and culture are key to reducing risk and engaging communities. Transparently acknowledging what is known and unknown is critical to alleviating the stress and fear caused by pandemic uncertainty.
Informed by data	Data should be collected and analysed to inform RCCE strategies and the broader response. A balance is needed between individual-level data and insights into social and structural factors, such as social norms and economic pressures, that influence behaviours.
Integrated	RCCE should be integrated into public health, humanitarian, and development responses to COVID-19. At the program level, it must be mainstreamed across all sectors to ensure participation and enhance effectiveness.

Coordinated	COVID-19 affects various community aspects beyond health, including access to food, water, sanitation, livelihoods, security, and education. Coordinating RCCE efforts across sectors prevents duplication, fills coverage gaps, ensure consistency, as well as maximizes efficiency and impact.
Inclusive	Support should focus on the most vulnerable, marginalized, or at-risk groups. RCCE approaches must be accessible, culturally appropriate, and gender-sensitive. Prioritizing the representation of all groups in local decision-making promotes transformative power structures, enhances community dynamics, and ensure a diverse range of knowledge and skills are utilized.
Accountable	In responding to COVID-19, public health, humanitarian, and development actors must be accountable and transparent with affected communities. RCCE approaches should ensure communities have access to information and can participate in decision-making. Additionally, community feedback on the response should be documented an addressed.

Source: World Health Organization, 2021a

The research question of this study is what are the roles of RCCE Indonesia in the public health crisis caused by the COVID-19 pandemic? The main goal of this research is to examine the roles of RCCE in Indonesia's COVID-19 response from the perspective of NGOs. Through the perspective of 3 representatives from the Indonesia RCCE working group for COVID-19 Response, it is hoped that this study can examine the roles of the community in assisting the government in dealing with the public health crisis caused by the COVID-19 pandemic.

RCCE strategies in various countries

Experiences and lessons learned from the international community is crucial for emerging pandemics prevention and control programs, especially in promoting evidence-based decision-making, integrating data and models to inform effective and sustainable RCCE strategies, such as local and global safe and effective COVID-19 vaccines and mass immunization programs (Tambo et al., 2021). In some countries, communities play a crucial role in RCCE practice. For instance, in Austria, Civil Society Organization (CSO)'s and social facilities were essential to engaging vulnerable people during the pandemic (Wojczewski et al., 2023). Whereas in Africa, NGOs and Community Based Organization (CBOs) rely on WHO and Health Ministries for reliable information, as many people at the grassroots level still doubt the reality of COVID-19, viewing it as a government scheme (Emovwodo et al., 2022). Similarly, Bangladesh's government, along with development partners and NGOs, made substantial efforts to raise COVID-19 awareness in communities (Kamruzzaman et al., 2024).

RCCE strategies prioritize understanding social behavioural insights, including knowledge, attitudes, perceptions, and cultural norms, to enhance their effectiveness (Njagi et al., 2024). Tailored communication aligned with local values increases its impact, sd seen in the strategies implemented by 13 African nations, including Ethiopia, Ghana, Kenya, and Nigeria, which focused on training, community engagement, misinformation management, and uncertainty reduction (Adebisi et al., 2021).

In Pakistan, RCCE encompassed six key components: real-time communication, public service messaging, two-way dialogue, outreach to underserved populations, support for frontline health workers, and rumor management (Haq et al., 2021). Community initiatives included raising awareness, promoting family safety, distributing protective equipment, and improving water systems highlighting themes such as shifting attitudes towards the pandemic, changing perceptions of vaccination, and empowering women (Moran et al., 2023).

Iran's national task force leveraged primary health care infrastructure and community health volunteers to implement RCCE activities through the "Shahid Qassem Soleimani" project, which included case detection, testing, clinical care, contact tracing, home care, and

the vaccination campaigns. Key lessons emphasized tailored RCCE strategies, stakeholders coordination, and investment in health system resilience (Senga et al., 2023). Moreover, promoting effective public RCCE interventions requires improving internal government health systems, enhancing community trust, and building resilience. To better understand population risk and COVID-19 transmission dynamics, the use of artificial intelligence and machine learning systems for monitoring isolation/quarantine and tracking is essential (Hu & Qiu, 2020; Tambo et al., 2021).

RCCE is essential for effective public health preparedness and emergency response. In the Eastern Mediterranean Region, many countries, Afghanistan, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Pakistan, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia and United Arab Emirates, face limited RCCE capacity, with efforts mainly focused on immediate response. The COVID-19 pandemic highlighted the need for sustained investment in RCCE, and the lessons learned offer an opportunity to strengthen systems for long-term impact (Samhouri et al., 2024).

Despite its successes, RCCE encountered challenges such as government distrust, socio-cultural resistance, and reliance on one-way communication (Adebisi et al., 2021). Insufficient global guidelines, inadequate coordination, and barriers to message dissemination further complicated efforts (Haq et al., 2021; Kamruzzaman et al., 2024). Moreover, studies highlight the need for stronger governance, community participation, and inclusive, locally-driven risk communication to foster trust and build resilience during crises (Tambo et al., 2021; Khan et al., 2022).

To address these gaps, studies emphasize the importance of sustained investment in RCCE, improved coordination, and flexible global guidelines to adapt to evolving crises. Strengthened governance, community engagement, and public trust are essential for effective pandemic preparedness and response (Hu & Qiu, 2020). Lessons from 177 countries reveal that enhancing health promotion for key modifiable risks and building public trust in health guidance can significantly mitigate fatalities in future outbreaks (Collaborators, 2022).

METHODOLOGY

In this study, we apply constructivist paradigm and qualitative approach with case study method. These methods allow for exploring complex, subjective experiences within the RCCE framework, which is essential for understanding the informants' roles in a nuanced public health crisis. Informants were located and recruited by searching the websites of multiple non-governmental organization dedicated to informing the public about the COVID-19 pandemic and actively teaching society how to address Indonesia's public health emergency. Three informants who were the founder of Lapor COVID-19, main member of Mafindo, and initiator of Pandemic Talks were chosen to obtain the perspective of non-governmental organizations regarding the public health crisis, specifically related to the COVID-19 pandemic in Indonesia. These initiatives were prompted by concerns that citizens were not receiving enough health information. They belong to RCCE Indonesia as well. They were chosen to represent NGOs that play a key role in implementing RCCE strategies in Indonesia.

Table 2: List of Informants

Initial	Organization	Position
I.1	Lapor COVID-19	Co-founder
I.2	Pandemic Talks	Co-founder
I.3	Masyakat Anti-Fitnah Indonesia (Mafindo)	Main member

Data was gathered through semi-structured in-depth interviews. There were in-person interviews conducted from July 2023 to January 2024. The interview guides included questions aimed at eliciting information about the participants' roles and responsibilities concerning communication and challenges faced, the public response, and the effectiveness of the COVID-19 communication. All interviews were recorded, transcribed, and analysed using thematic analysis, with manual coding applied inductively.

Indonesia RCCE Working Group for COVID-19 Response

Refers to the operational plan for COVID-19 mitigation in Indonesia, which is divided into nine main COVID-19 preparedness and response pillars: (1) command and coordination, (2) risk communication and community engagement, (3) surveillance, (4) laboratory, (5) case management, (6) infection prevention and control, including large-scale social restriction, (7) points of entry and international travel, (8) logistics and operational support, (9) continuity of essential services (World Health Organization, 2021b). Two of the nine pillars focus on communication issues. First, command and coordination. Second, risk communication and community engagement. The risk communication and community engagement pillar's obligations in particular include: (1) monitor media and communication sources, including mass media, digital and social media platforms and COVID-19 hotline reports to capture public opinions and issues circulating among the public, (2) develop narrative content, adapted to varying contexts and situations, to communicate public health advice, (3) identify various target groups, including specific community, students, and press in order to tailor messaging, (4) develop communication product to meet the information needs of various targets, including press releases, infographics, videos, social media content, radio broadcasts, hoax buster narratives, talking points, and FAQs, (5) engage with media to disseminate information products and messaging.

Coordination and Collaboration

The Indonesian central government collaborates and cooperates with other entities to communicate how the COVID-19 pandemic is being handled. In February 2020, the Indonesia Risk Communication and Community Engagement (RCCE) working group for COVID-19 response was established during the initial COVID-19 emergency response meeting involving representatives from various communities concerned about the pandemic in Indonesia. The group consists of national and international agencies, government representatives, UN organizations, academia, communication practitioners, as well as civil society organizations who is working with community in the fields to motivate public to practice the prevention measures i.e. the use of mask, physical distancing, hand-washing with soap, to accept and participate in COVID-19 vaccination, to facilitate access to essential health services, to response to the disaster i.e., flood, earthquake, volcanic eruptions. It includes Palang Merah Indonesia (PMI)/Indonesian Red Cross, Satgas Peduli COVID-19 Nahdlatul Ulama, Muhammadiyah COVID-19 Command Center, Johns Hopkins Center for Communication Programme, USAID, UNICEF, IFRC, and WHO.

UNICEF was asked by the central government to be part of the Public Communication team. UNICEF began work on the "Keep Safe, Keep Learning" campaign to inform children and parents on how best to learn from home. A series of PSAs and TV shows were broadcast, and social media assets shared online. UNICEF also worked with the government task force to develop talk shows and support media conferences to inform the public about important information related to COVID-19. Several groups, including Mafindo, Lapor COVID-19, and

Pandemic Talks have been encouraged to work with the central government to communicate the COVID-19 pandemic in Indonesia.

Masyarakat Anti-fitnah Indonesia (Mafindo) or Anti-slander community is a fact-checking organization founded in 2016. Initially focused on fact-checking, it expanded to include community engagement, public education, and research. To maintain independence, Mafindo refuses government funding, relying on support from companies like Google, Facebook, WhatsApp, and Meta. The organization employs seven full-time fact-checkers and has 800 members across 40 Indonesian cities, though only half are active. Mafindo also conducts community education programs and serves as a crisis center for hoaxes in certain cities.

Mafindo supports the Ministry of Communication and Information Technology in several programs, including digital literacy. The government and Mafindo have a solid working relationship. As underlined by I.3, main member of Mafindo:

> *I was involved in the* Indonesia Makin Cakap Digital *program, as part of the curriculum designer and module writer, as well as providing training of trainer for all facilitators in Indonesia during 2020-2021. We work closely with the government, which occasionally request our assistance in debunking and clarifying hoaxes.*

The Ministry of Communication and Information Technology has its own unit, but Mafindo takes a more thorough approach because it is ISEN certified. The government is prohibited from going there due to its adherence to the civil servants' code of ethics. It is difficult to provide some clarifications regarding hoaxes.

> *We also genuinely support the government because it is overwhelmed. Chief Rudiantara, a former minister of the Ministry of Communication and Information Technology provided vital support for Mafindo's founding. He arrived when Mafindo declared in January 2017 and remarked, "Mafindo must exist, but don't expect us to help." We took away the message that Mafindo needs to remain independent. Because Chief Rudiantara has worked in the industry for a long time, he is aware of the necessity for an organisation like Mafindo to exist and be truly independent for balance.*

Mafindo and the Ministry of Communication and Information Technology have also established a cooperation through Siber Kreasi, a community that manages several digital literacy-related organisations. There were 97-100 organisations in the end. Mafindo, for instance, support Siber Kreasi's Jawara Internet Sehat programme by sending a few of its members to participate, including her as a mentor of the programme.

Lapor COVID-19 was founded by 10 individuals from various backgrounds, including public health in response to a lack of transparency in COVID-19 communication and data. The platform initially help users assess potential infection by asking 10 key questions through a WhatsApp chatbot. Despite its effectiveness, some hesitate to use the service due to its non-government status and fears of COVID-19. Ultimately, Lapor COVID-19 aims to address human rights concerns during the pandemic in Indonesia.

Lapor COVID-19 working together with the government. All public health ideas and programs will fail if they are implemented alone and there is no collaboration between the public sector and civil society. Some disagree about the private sector as well, but since the

private sector is involved in most conflicts of interest, it needs rules of the game. I.1 ensure that:

> *Because I studied and worked in the field of public health for a long time, I think that regarding COVID-19, we need to work together with the government.*

To promote data openness, Lapor COVID-19 in coordination with the provincial governments of West Java and East Java. They establish a public reporting channel and collaboratively oversee all community input and information. Their website has all these reports. If someone is seeking hospital information, they also collaborate with the DKI Jakarta provincial government. At one point, hospital rooms ran out in Indonesia. People were dying in line on the street, with no time to get into the hospital since it was completely packed.

> *We are working along with the district/co-district health hospital in our community. We get a lot of assistance at DKI Jakarta. When we contact the DKI Jakarta provincial government, we search for hospitals and make sure to get in touch with those that have available rooms. In addition, we are working in partnership with the DKI Jakarta provincial government to conduct multiple studies on vaccination acceptance among citizens as well as the psychological and emotional effects of COVID-19. We then monitor these three studies' recommendations and incorporate them into the COVID-19 policies.*

Evidence-based policies are essential for governing the public in public health and all scientific fields. It is not acceptable to just select the same individual and have FGD stakeholders meet twice or more at the hotel. Expert testimony and public hearing are required.

> *We need to study people and their illness when it comes to human disease. Because of this, we work together and forward citizen reports that are collected through LaporCOVID-19's chatbot to the Ministry of Health, the COVID-19 Response Acceleration, The Executive Office of the President, and other pertinent domestic departments or agencies if there are violations pertaining to health protocols or social assistance.*

Pandemic Talks is a community-driven platform focused on managing the COVID-19 pandemic. Founded by three co-founders, it launched its first content in April 2020 via Instagram and podcast. Initially aimed at closing the knowledge gap, the platform grew as the pandemic expanded, hiring freelancer to contribute. After the pandemic, Pandemic Talks recognized a lack of straightforward health information, particularly regarding *Kejadian Luar Biasa (KLB)*/extraordinary events or other health issues, and made efforts to address this gap.
      Pandemic Talks marks collaboration with the government on Budi Gunadi Sadikin's first day in office as Minister of Health. They received an invitation to a meeting with organisations and volunteers that provided aid during the COVID-19 pandemic. As said by I.2:

> *About thirty people occupy one room. After our conversation, the government requested our input. Pandemic Talks sent doctors, influencers, and epidemiologists at the time. Since then, everyone has started to build rapport with the government and work together. We can now readily offer suggestions and talk more honestly.*

Risk Communication

As a dynamic process, risk communication requires information sharing across stakeholders to support efforts for preparedness, response, and recovery before, during, and after an extreme event (Kar & Cochran, Jr., 2019). I.1 complements that in public health there is risk communication to respond to health crisis situations. There are 3 basic things that must be done. First, data transparency by conveying actual data. Second, convey plans or steps to respond the data. Third, educate the public about issues related to the situation being responded to. For example, the government has announced case one and case two of COVID-19, which was the first to affect two people in Depok, West Java. In other countries it is reported that there have been cases, but the type of this disease is still unknown, which affects the respiratory tract. The government should educate the public, that from now on they must be careful, wear masks, we (the government) will do A, B, C, etc. When the government conveyed the steps, it had taken to respond to the situation being faced, the public became calm. Furthermore, to create trust, the public must see that it is true that the government has done A, B, C, D. Risk communication in public health is not just communicating or responding to crisis situations, but also has an element of educating the public, and showing that the government is responsible for carrying out steps A, B, C, D. The public feels calmer because they are informed about what the government is currently doing, and what public should do. The public will feel like they have a reference. Not only was it announced publicly, but the public also saw it directly.

I.1 also mentioned about evidence based, that in public health there is a course called program planning, implementation, and evaluation. All public health policies must be planned. The plan is made based on existing studies in the field, must be made as meaningful as possible, implemented, and evaluated for both success and failure. Everything must be planned, implemented, and evaluated periodically. That's why when the government tells the public to do A, B, C, or D, and they don't see it carried out in practice, their trust in the government is diminished. Public health policies will fail if the public loses their trust in those who set policy. For instance, a lot of people break health protocols because of inconsistent application of policies. Existing policies are designed to be illogical. Such as PSBB, workers still must work. The roadways in Jakarta were once stopped, making it impossible for workers to get where they needed to go for work That is a conflicting policy that must be regulated.

I.1 added an explanation on risk communication in public health that the motto in public health science is "prevention is better than cure". Thus, a subfield of health promotion science exists. It makes sense that the Ministry of Health has a division dedicated to health promotion. Health promotion is the science of health communication. However, the goal of both health communication and education is to raise public literacy.

I.1 also described the objective of risk communication is to educate people. Lapor COVID-19 primarily educates the public about public health so they may take appropriate action. To educate the public, the government must present actual data, explain their plan, inform decisions, and provide information on what the public can do. There needs to be an educational component so that the public can make the best judgements, prevent COVID-19, and address concerns. Concern for public health is crucial to raise health literacy by educating the public about what to avoid. If risk communication is accurate, it will make it easier for the government to provide community education, people will be more independent, and health literacy will indirectly rise even further. The community is prepared to be able to anticipate risks. They may apply what they have learned from the past crises to any that will occur in the future. Unfortunately, instruction rather than awareness is the reason why people in Indonesia are willing to wear masks.

We haven't arrived yet, we're still very far away.

In risk communication, the community is a very essential component. The program will function effectively, risks will be managed well, and pandemic prevention will be carried out more optimally if the public can accept it. However, when it comes to community engagement, people won't accept the government if reality differs from its claims because the government's actions as well as its words establish trust. In addition to data transparency, public education, and community engagement, the key component of risk communication is community center risk communication.

Community Engagement

I.3 explained that community engagement involves education and advocacy. To fulfil its literacy mission, Mafindo creates educational recourses. Meanwhile, advocacy is done in response to crisis that call for help. For instance, when community members reject cadres due to hoax, there can be a communication crisis in the field. Mafindo assists in providing clarification before going up to a representative or other reliable source to deliver the information. This view is in-line with the claim by Heath & O'Hair H. Dan, (2009) "In terms of crisis and risk communication, the responsive system is constructed to lay the publics' concerns and their frequently limited capacity. It also evokes public engagement, understanding and appreciation of the complex messages."

> In 2018, I accompanied several mothers in Bandung West Java who were arrested by the police for spreading hoaxes about child kidnapping. They spread hoax without realising the serious consequences, to the extent that a person was almost killed by beating due to hoax that mentioned people with certain characteristics.

The police see the hoax spreaders as obviously guilty in black and white. Meanwhile, other considerations can be considered. In interviews, Mafindo argues that, in contrast to when a father is imprisoned, the entire family suffers when a mother is. Furthermore, if the woman in jail are young mothers, it indicates that their kids are still small. It turns out that the reason they disseminate hoax is precisely because they have strong protective instincts. They don't even verify hoax before spreading it as soon as it come across one.

Hoax spreaders may face criminal penalties. However, a peaceful resolution to the matter can occur, for instance, if the victim's family accepts that this was the result of ignorance. But the police find it challenging to go that way. Therefore, it is necessary for Mafindo to engage in such advocacy activities and be present at the mediation session.

These kind of advocacy efforts are never published because they deal with individuals' private information. Mafindo's role is limited to literacy-level such as producing educational materials, and many modules are easily accessible. Mafindo will refrain from making decisions in the legal sphere because that is the domain of legal officers. However, Mafindo is occasionally called upon by the police to assist with clearance or to identify the source of an issue. Mafindo can get there, but the police will follow through the POLRIs cybercrime unit.

I.3 added that a pre-test and post-test that demonstrates changes in cognition, affect, and behavior is used to measure community engagement activity.

Infodemic Management

Infodemic is a flood of information on the COVID-19 pandemic (WHO, n.d.). RCCE also helps manage infodemics by building trust in health authorities, enhancing social unity, and offering clear, reliable, and accessible health guidance that addresses community concerns, perceptions, and questions. This helps reduce the spread and effects of misinformation, disinformation, and

uncertainty, all of which can seriously weaken a response and pose a threat to public health (World Health Organization, 2021a).

As mentioned by Letjen Doni Monardo, former Head COVID-19 Response Acceleration Task Force, that the hardest challenge was that there was a lot of misinformation about COVID-19. Hoaxes had a powerful impact on people's attitudes. And they could come from foreign or domestic media. And even doctors, medical professionals had different opinions. Every doctor had a different opinion about preventing COVID-19. UNICEF's guidance was very valuable. As an international organization that is part of the United Nations, UNICEF could provide information quickly and accurately, as well as input on COVID-19 response through community engagement.

The Indonesian government is attempting to address misinformation that emerged during the COVID-19 pandemic using infodemic management. Without support from several parties, including Mafindo, the government is unable to manage the infodemic. I.3 explained the role of Mafindo in infodemic management in Indonesia. At first, Mafindo has participated in the national RCCE Task Force since Mr. Doni Monardo's era, from the start of the pandemic until now, as there are a lot of hoaxes about the pandemic.

> *On the COVID-19 Task Force website, there is also a hoax buster. Along with Harry Sufehmi, the founder of Mafindo, I am a member of the Task Force. Numerous more friends, some of whom are in the Indonesian Ministry of Communication and Information Technology, are at varying degrees as well. I operate at the intersection of hoaxes, digital literacy, and crisis or risk communication.*

During the COVID-19 pandemic, Mafindo first assists in monitoring hoaxes that are going around and debunking specific hoax about COVID-19 as well as general topic based on content, even when some hoax content has been modified and replicated, it is still debunked. First, in addition to monitoring, Mafindo facilitates digital listening social networking. Second, because health cadres in the community serve as the backbone of information dissemination, Mafindo was asked by RCCE, the Indonesian Ministry of Communication and Information Technology, and the local government to develop an intervention model on how to improve their critical thinking skills. Third, Mafindo was requested to assist in the development of networking with stakeholders across various regions to eradicate hoaxes.

> *In 2020, I took on the role of team leader for the social inoculation 2.0 project which was created by UNICEF, WHO, and the US CDC to develop a cadre intervention model for capacity building.*

Although the intervention model's primary goal is to counteract the infodemic, its goal is to build cadre capacity through the development of a model that begins with curriculum creation, approach design, and model construction. Eventually, Mafindo was involved on a big project known as infodemic management.

> *I am the first batch in the world to receive infodemic management training, having been trained by the CDC and WHO. There are four or five batches now. To generate something, we attempt to read data, observe trends, carry out offline research, and compile the outcomes of people's behavior both offline and online.*

Mafindo is responsible for infodemic management during the COVID-19 pandemic. It also turns out that infodemic management involves more than just fact checking, it also entails

implementing community outreach strategies. After fact checking, Mafindo implemented public education and community engagement since the public will not embrace education if the community engagement strategy is not good. There are no hit and run educational activities. Mafindo volunteers usually divide into small groups, then they discuss, provide feedback and clarification.

There is more to infodemic management than just debunking. First, after the hoax has occurred and spread, it is debunked before being clarified. However, the amplification of virality is always insignificant in comparison to the hoax. Second, damage has already occurred everywhere. The source of the hoax is always present when Mafindo investigates and debunks them. For this reason, a new approach known as pre-bunking (preemptive debunking) is now being introduced in the risk communication division. Immunize the target demographic in advance so that they would already have a defense when the hoax appears and causes harm. The process of enhancing people's critical thinking abilities and fostering a habit of critical thinking are the keys to achieving this.

> *We already know that the hoax and our pre-bunking technique are identical. Basically, the COVID-19 vaccination hoax is built upon hoax about vaccinations in general. For instance, "after being vaccinated, someone becomes paralyzed or dies". Additionally, there is: "you don't need to be vaccinated, because all you need is purely healthy body, just meditation, natural healing".*

A person can recognize the characteristic of hoax if they are familiar with their appearance and know how to cope with them. First, exercise caution if any information has the qualities A, B, or C. Second, hoaxes about health problems or even vaccinations are typically focus on the producer, ingredients, manufacturing process, side effects, and whether the product is halal or not.

> *In addition to teaching basic fact checking, we educate people about common issues so that their awareness arises, and they won't be as shocked when they come across such information.*

Mafindo has developed a technique that works with What'sApp and the turn back hoax ID website. Numerous hoax archives have been debunked. Recently, Liputan 6 and the *Komunitas Cek Fakta* have this tool as well as the turn back hoax ID from Mafindo. *Komunitas Cek Fakta* is a community supported by 26 media, Mafindo is among them. The environment tools available now are excellent. Additionally, the approach is modified to fit the community.

> *My current responsibilities include cultivating cultural sensitivity and awareness as well as community engagement.*

CONCLUSION

This study demonstrates the crucial role of the three informants, representing communities affected by the COVID-19 pandemic, in supporting Indonesian central government efforts to control its spread. They were key in disseminating information on preventive measures like mask-wearing, physical distancing, hand hygiene, and vaccination, while also combating misinformation and advocating for health workers facing challenges like delayed government incentives and challenges faced by frontline responders. In Eastern and Southern Africa (Comoros, Kenya, Madagascar, Malawi, Zambia), the pandemic has underscored the need to strengthen regional and national social listening capabilities, especially on digital platforms.

Resources developed for the COVID-19 response are now being adapted to address ongoing challenges, such as access to services and vaccine rollout, as well as to prepare for future emergencies and infodemics (Sommariva et al., 2021).

The findings stress the importance of effective coordination among the government, stakeholders, and communities, especially in Indonesia, where its geographic and cultural diversity complicates uniform health messaging. Collaboration between local and national actors, as well as between governmental bodies and NGOs, is essential to overcoming these challenges. These insights can inform the development of RCCE strategies for future public health crises, ensuring that efforts are tailored to local contexts and engage diverse communities through collaborative and coordinated initiatives.

The broader implications of this study go beyond COVID-19, emphasizing the essential role of trusted community informants in enriching the effectiveness of RCCE strategies in public health emergencies. In future crises, involving local leaders who understand community concerns will improve the dissemination of accurate information and health compliance. Addressing challenges like delayed support for health workers can strengthen relationships between the government, healthcare providers, and the public, contributing to more resilient health systems.

Following the end of the COVID-19 pandemic, the RCCE working group in Indonesia has shifted to overseeing priority health programs. Now classified as RCCE+, it involves managing both the initial and subsequent outbreaks, with long-term priorities focused on nutrition, non-communicable diseases, and environmental health.

ACKNOWLEDGEMENT

REFERENCES

Adebisi, Y. A., Rabe, A., & Lucero-Prisno, D. E. (2021). Risk communication and community engagement strategies for COVID-19 in 13 African countries. *Health Promotion Perspectives*, *11*(2), 137–147. https://doi.org/10.34172/hpp.2021.18

Covello, V. T., Peters, R. G., Wojtecki, J. G., & Hyde, R. C. (2001). Risk communication, the West Nile virus Epidemic, and Bioterrorism: Responding to the Communication Challenges Posed by the Intentional or Unintentional Release of a Pathogen in an Urban Setting. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, *78*(2), 382–391. https://doi.org/10.1093/jurban/78.2.382

Emovwodo, S. O., Danso, S., Massay, E. M., & Bah, Y. M. (2022). Risk communication and community engagement in COVID-19: Fighting infodemics among non-governmental/ community-based organizations in Africa. *Journal of Public Health in Africa*, *13*(2), 177–181. https://doi.org/10.4081/jphia.2022.1620

Fajri, D. L. (2022, February 22). Mengenal Jumlah Pulau di Indonesia Tahun 2021. *Katadata.Co.Id*. https://katadata.co.id/safrezi/berita/621315ffe0ff0/mengenal-jumlah-pulau-di-indonesia-tahun-2021

Haq, Z. U., Mirza, Z., Oyewale, T. O., & Sultan, F. (2021). Leaving no one behind: Pakistan's risk communication and community engagement during COVID-19. *Journal of Global Health*, *11*, 1–5. https://doi.org/10.7189/jogh.11.03091

Heath, R. L., & O'Hair H. Dan. (2009). Handbook of Risk and Crisis Communication. In R. L. Heath & O'Hair H. Dan (Eds.), *Communication* (1st ed.). Routledge. https://doi.org/10.1007/978-94-007-1433-5

Hu, G., & Qiu, W. (2020). From guidance to practice: Promoting risk communication and

community engagement for prevention and control of coronavirus disease (COVID-19) outbreak in China. *Journal of Evidence-Based Medicine*, *13*(2), 168–172. https://doi.org/10.1111/jebm.12387

Kamruzzaman, M., Rahman, A., Reidpath, D. D., & Akhter, S. (2024). Risk communication and community engagement in the context of COVID-19 response in Bangladesh: a qualitative study. *Frontiers in Public Health*, *11*(January), 1–10. https://doi.org/10.3389/fpubh.2023.1267446

Kar, B., & Cochran, Jr., D. M. (2019). *Risk communication and community resilience* (1st ed.). Routledge.

Kemendagri RI. (2022). *273 Juta Penduduk Indonesia Terupdate Versi Kemendagri*. Kemendagri.Go.Id. https://dukcapil.kemendagri.go.id/berita/baca/1032/273-juta-penduduk-indonesia-terupdate-versi-kemendagri

Khan, S., Mishra, J., Ahmed, N., Onyige, C. D., Lin, K. E., Siew, R., & Lim, B. H. (2022). Risk communication and community engagement during COVID-19. *International Journal of Disaster Risk Reduction*, *74*, 102903. https://doi.org/10.1016/j.ijdrr.2022.102903

Moran, V. H., Ceballos-Rasgado, M., Fatima, S., Mahboob, U., Ahmad, S., McKeown, M., & Zaman, M. (2023). Participatory action research to co-design a culturally appropriate COVID-19 risk communication and community engagement strategy in rural Pakistan. *Frontiers in Public Health*, *11*(April). https://doi.org/10.3389/fpubh.2023.1160964

Njagi, D., Nyikuri, M., & Ndembi, N. (2024). Integrating social behavioural insights in risk communication and community engagement approaches for better health outcomes in Africa. *BMJ Global Health*, *9*(9), e015548. https://doi.org/10.1136/bmjgh-2024-015548

OECD. (2016). Trends in Risk Communication Policies and Practices. In *OECD Reviews of Risk Management Policies*. OECD Publishing. https://doi.org/10.1787/9789264260467-en

Putri, D. L. (2022, July 1). Bertambah Tiga, Ini Daftar 37 Provinsi di Indonesia Beserta Ibu Kotanya. *Kompas.Com*. https://www.kompas.com/tren/read/2022/07/01/100500265/bertambah-tiga-ini-daftar-37-provinsi-di-indonesia-beserta-ibu-kotanya

Samhouri, D., Aynsley, T. R., Hanna, P., Frost, M., & Houssiere, V. (2024). Risk communication and community engagement capacity in the Eastern Mediterranean Region: A call for action. *BMJ Global Health*, *7*(Suppl 3), 1–6. https://doi.org/10.1136/bmjgh-2022-008652

Sellnow, T. L., Ulmer, R. R., Seeger, M. W., & Littlefield, R. S. (2009). *Effective Risk Communication: A Message-Centered Approach*. Springer. https://doi.org/10.1007/978-0-387-79727-4

Senga, M., Kouhestani, M., Hosseini Boroujeni, S. M., Ghaderi, E., Parchami, P., & Hussain, S. J. (2023). Risk communication and community engagement as an emerging pillar of health emergency management in Iran: Achievements and the way forward. *Frontiers in Public Health*, *11*(February). https://doi.org/10.3389/fpubh.2023.1097932

Sommariva, S., Mote, J., Bon, H. B., Razafindraibe, H., Ratovozanany, D., Rasoamanana, V., Abeyesekera, S., Muhamedkhojaeva, P., Bashar, T., James, J., & Sani, M. (2021). Social listening in eastern and southern africa, a unicef risk communication and community engagement strategy to address the COVID-19 infodemic. *Health Security*, *19*(1), 57–64. https://doi.org/10.1089/hs.2020.0226

Tambo, E., Djuikoue, I. C., Tazemda, G. K., Fotsing, M. F., & Zhou, X. N. (2021). Early stage risk communication and community engagement (RCCE) strategies and measures against the coronavirus disease 2019 (COVID-19) pandemic crisis. *Global Health Journal*, *5*(1), 44–50. https://doi.org/10.1016/j.glohj.2021.02.009

UNICEF. (2024). *Community Engagement*. https://www.sbcguidance.org/understand/community-engagement

WHO. (n.d.). *Let's flatten the infodemic curve*. Retrieved June 26, 2024, from https://www.who.int/news-room/spotlight/let-s-flatten-the-infodemic-curve

Wojczewski, S., Grohma, P., & Kutalek, R. (2023). Risk communication and community engagement with vulnerable groups: Perceptions of social-services CSOs during Covid-19. *International Journal of Disaster Risk Reduction*, *94*(February), 103817. https://doi.org/10.1016/j.ijdrr.2023.103817

World Health Organization. (2021a). COVID-19 Global Risk Communication and Community Engagement Strategy. In *Interim Guidance* (Issue December 2020-May 2021). file:///C:/Users/dr/Downloads/WHO-2019-nCoV-RCCE-2020.3-eng.pdf

World Health Organization. (2021b). *Operational Plan for the Mitigation of COVID-19 in Indonesia: Summary Report for Partners* (Issue February 2021). http://apps.who.int/bookorders.

World Health Organization. (2023). https://www.who.int