Infodemic with misinformation and disinformation in pandemic Covid-19 situation: A global case study

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ABSTRACT

The challenge today is that disinformation and misinformation tools and tactics are now literally at the fingertips of anyone who wants to co-opt COVID-19 for their own agenda, including government agencies. For example, researchers at the Bruno Kessler Foundation analyzed 112 million public social media posts related to the pandemic and found that 40 per cent came from unreliable sources, and that almost 42 per cent of over 178 million tweets related to COVID-19 were by bots. Meanwhile, Reuters Institute found that around a third of social media users have reported seeing false or misleading information about the corona virus, while research by Pew suggests that people who receive their news primarily through social media are more likely to be exposed to false content. These platforms, thus, have a responsibility to ensure credibility. Even before Covid-19, the social media platforms had been under scrutiny to address the spread of fake news. Since Covid-19, several efforts have been made in this endeavour. However, despite these efforts, the problem is not easily surmountable. A combination of automation and human intervention is needed to keep a check on misinformation. The government needs to have legislative regulations, investigative responses and needs to counter disinformation campaigns. For consumers, mindful sharing and distribution of content are essential. Critical thinking and digital verification skills by citizens can go a long way countering the infodemic. Additionally, application of nudges like a 'cool-down period' or 'speed-bumping' into the social media platforms can enhance thinking. Cool-down period or speed-bumping is a methodology which provides a subtle signal to the consumer that the decision which would be made without pausing and deliberation, would not be the most desirable decision. As online users, we have a crucial role to play in tackling this infodemic. Access to reliable and accurate information is critical at the best of times. Now, more than ever, we need information we can trust.

Keyword: Covid-19, pandemic, Infodemic, misinformation, disinformation, cool-down period, information

1. Introduction and background

On 31 December 2019, the WHO China Country Office was informed of cases of pneumonia unknown etiology (unknown cause) detected in Wuhan City, Hubei Province of China. From 31 December 2019 through 3 January 2020, a total of 44 case-patients with pneumonia of unknown etiology were reported to WHO by the national authorities in China. During this reported period, the causal agent was not identified. The Chinese authorities identified a new type of coronavirus, which was isolated on 7 January 2020. On 13 January 2020, the Ministry of Public Health, Thailand reported the first imported case of lab-confirmed novel coronavirus (2019-nCoV) from Wuhan, Hubei Province, China. On 15 January 2020, the Ministry of Health, Labour and Welfare, Japan (MHLW) reported an imported case of laboratory-confirmed 2019-novel coronavirus (2019-nCoV) from Wuhan, Hubei Province, China.

On 20 January 2020, National IHR Focal Point (NFP) for Republic of Korea reported the first case of novel coronavirus in the Republic of Korea. As of 20 January 2020, 282 confirmed cases of 2019-nCoV have been reported from four countries including China (278 cases), Thailand (2 cases), Japan (1 case) and the Republic of Korea (1 case); Six deaths have been reported from Wuhan City. Public risk communication has been enhanced. Cases have been reported in Thailand, Japan, Hong Kong Special Administrative Region, Taipei Municipality, China, Macau Special Administrative Region, United States of America and the Republic of Korea. All had travel history to Wuhan.



WHO 1st published covid-19 affected map of China in their website as on 25th Jan 2020

A total of 581 confirmed cases have been reported for novel coronavirus (2019-nCoV) globally. Of the 581 cases reported, 571 cases were reported from China. Of the 571 confirmed cases in China, 375 cases were confirmed from Hubei Province. Of the 571 cases, 95 cases are severely ill. 17 deaths have been reported (all from Hubei Province). All those above information has been obtained from the bulletins published by WHO, from the Day-1 to mid August, 2020.

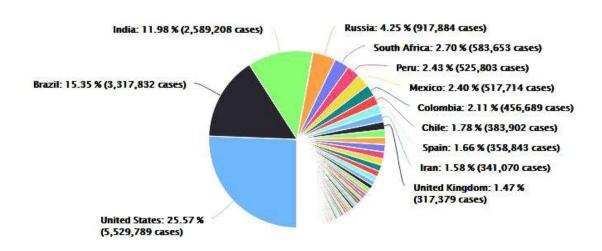


WHO 1st published global covid-19 affected map in their website as on 30th Jan 2020

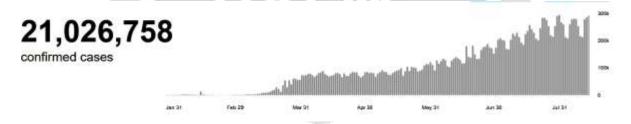
2. NAMING HISTORY OF CORONA VIRUS AS 2019-NCOV

Countries cases distribution

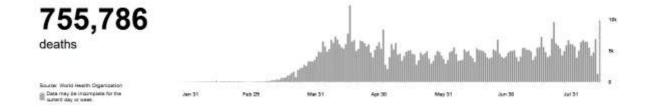
Distribution of cases



The Emergency Committee on the novel coronavirus (2019-nCoV) under the International Health Regulations (IHR 2005) met on 30th Jan 2020 to discuss whether the outbreak constitutes a public health emergency of international concern. On hat very day, the 1st confirmed cases of 2019-nCoV acute respiratory disease in Finland, India and Philippines; all had travel history to Wuhan City. On this day, WHO, in their press release, said that the name of the disease causing the current outbreak should be "2019-nCoV acute respiratory disease" (where 'n' is for novel and 'CoV' is for coronavirus). This name complied with the WHO Best Practices for Naming of New Human Infectious Diseases, which were developed through a consultative process among partner agencies. Endorsement for the interim name is being sought from WHO's partner agencies, World Organization for Animal Health (OIE) and Food and Agriculture Organization (FAO). The final name of the disease was provided by the International Classification of Diseases (ICD). WHO prepared the proposal '2019-nCoV' as an interim name of the virus. The final decision on the official name of the virus was made by the International Committee on Taxonomy of Viruses.



Globally, as of 4:35pm CEST, 15 August 2020, there have been 21,026,758 confirmed cases of COVID-19, including 755,786 deaths, reported to WHO.



3. MEDIA: NEEDS THE ROLE FOR GREATER ACCOUNTABILITY

Since most of the people are at home during the lockdown, it is natural to see a growth in media consumption. People are using various media platforms for COVID-19-related information, but what is provided is far from factual and does not further a critical rational discourse. Rather, the media has become a tool of propaganda and sensationalism. Some television news channels see a Chinese conspiracy in the spread of COVID-19. In such



a "positive" atmosphere, the news related to labourers' mass exodus and the markaz was mostly presented due to its sensational value. The true situation would not have gained attention in the first place, if not for the ground-level reports by the committed journalists and social media coverage.

COVID-19 is a serious threat to the nation and therefore many rational measures and "honest conversations" must be expected from the government, which cannot be beyond the critical radar of journalism. The government has created a Prime Minister's Citizen Assistance and Relief in Emergency Situations (PM-CARES) Fund to combat the pandemic and many business corporations and common people have contributed to this fund. But, many questions have also been raised about the need for this fund, as the Prime Minister Relief Fund

had already been working from 1948 onwards for such situations (Hindu 2020; Mody 2020). All these issues demand serious journalistic investigation in public interest.

The role of larger media as observed during the pandemic, however, is not an overnight shift. It has been visible for some time now. The media has seen phenomenal growth during the last three decades, and India has become one of the biggest media markets in the world. The alliance between predominant religious fundamentalism and liberalism has also shaped it. Profit. the promotion of majoritarian views, and the exclusion of marginalised voices have become its main features. What should the role of governments be in such a situation, and what is it that journalism is meant to do? This is the time to introspect and examine the role of capitalism, state, and the media to avoid creating a future that threatens to destabilise democracy. Will this pandemic radically change society and governance models? Will the increased surveillance and policing become the new normal, or will we see increased

BUSTING MYTHS ABOUT THE NOVEL CORONAVIRUS

FACT
Not tested
Not true. No testing has been done
We do not know that yet
We do not know that yet
This is possible, but has not been confirmed. Now transmission is from person to person
Not true. The virus is spreading between people
No, the virus spreads through droplets that are created while coughing, spitting and talking
No
One dog in Hong Kong was infected but there is no evidence of spread from animals to humans
Any surfaces that are touched often can be a source of infection, including door handles, mobiles, lift buttons. Make sure these are wiped with a disinfectant often

efforts of building solidarity and cooperation? Our media needs to introspect and pose these questions.

4. DIFFERENT FAKE NEWS AND MISINFORMATION IN MEDIA

4.1 How the universe of misinformation works

Different modes of media are used to relay different kinds of misinformation, shows the study. For example, misinformation in the 'casualty' category relies heavily on visual content, such as video clips, since the goal is to evoke a physical reaction, often fear or disgust. On the other hand, tweets on the so-called cures and misleading statistics use a lot of text because the aim is to mislead by offering specifics, the study noted.

"People have more time now and often misinformation comes with an agenda," said Jatin Gandhi, fact-checking trainer and journalism educator. "During a pandemic there is anxiety and fear of the unknown which creates favourable conditions for spreading misinformation. It is also used as a diversion from real issues, such as failure of governance or the fact that there is no cure yet for the disease."

The study also found that content categorised as 'culture' or 'casualty' is, in all likelihood, repurposed old content to suit the

BUSTING MYTHS ABOUT THE NOVEL CORONAVIRUS

MESSAGE	CONTRACTOR AND	
Eating gadic/termeric/assen helps prevent infection		
Homeopathic medicine Americ Album 30 will cure/present indection	Not true. No testing has been done	
Chinese people are all infected with the virus, and coming in contact with them will lead to infection so they should be stopped	The virus was first found in China, but now there an more cases outside China flum in China or in Chinese people. Like India, China also has a large diaspora and Chinese-origin people are being attacked for no reason.	
The virus is a biological warfare weapon and was released from the Institute of Visology in Wuhan	Sequencing the virus shows that it came from animals and has not been artificially mutated	
The virus was made by the US and released in Wulsan during the World Military Games in October 2019	Sequencing the virus shows that it is related to animal viruses so most likely to have crossed species, and is not created in a lab	
Vaccines against parumonia protect you against the views	Influenza and posumococcul vaccines can present some kinds of posumonia but not that caused by SAR-CoV2	
Gammutra and gobar baths can treat and prevent infections	Not tested, not true	
Wearing a mask protects you against the virus	The masks that really protect you against the virus are special NVS respirator masks that have to be specially fitted for each person. These should be use in hospital for looking after parients. People who are infected should use masks to reduce a preading of the virus to others. On trains, buses and planes, a mask might provide some (not complete) protection if an infected person coughs way close to you (within 3 ft).	

current discourse. Since both these categories seek to affect the viewer emotionally, the creators of such content often seek out explicit content and repurpose it with a false heading since it is likely to have greater shock value, the authors wrote.

4.2 High on emotions, low on facts

India is entering a phase in misinformation which is intended to be affective around identity and emotion rather than instrumental facts that can be scientifically verified, the study said. Thus, from presenting fake cures or fake images of pain--which, over time, get debunked or appear suspicious to viewers--the misinformation has moved to cultural elements that are harder to verify. "There are many reasons; one is pure mischief, people who enjoy seeing falsehoods--they create, propagate," said Joyojeet Pal, one of the authors of the study. "Another reason is political; driven by those who want a certain agenda to prevail. And then, there is pure economics, on platforms where you can monetise virality (say YouTube), you can make money out of click-baiting people; the more extreme and controversial a piece of fake news sounds, the more likely it is that someone will click on it."

4.3 Delhi Jamat case is the manipulation by misinformation

Two categories of misinformation that caught the eye of the researchers due to their consistent rise were stories around culture and government. This pattern emerged with a visible increase in stories around Muslims and COVID-19 as well as stories around police brutality. By the end of March 2020, the number of fake stories increased from 15 in the week beginning March 16 to 33 in the week beginning March 30, with the Tablighi Jamaat event at Nizamuddin Markaz in Delhi being highlighted as a vector of novel coronavirus, according to different media sources. In contrast, the number of fake stories around casualty--fear-evoking messages related

to deaths, suicides and suffering of people in the pandemic or graphic imagery--and COVID-19 cure peaked and fell from 18 in number to 12 during the same period, the study found.

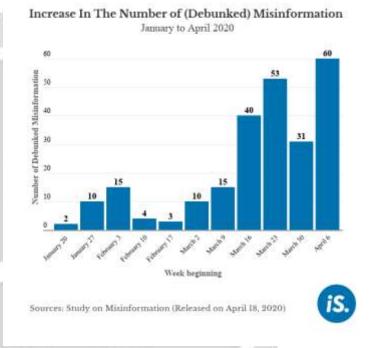
"Post the Tablighi Jamaat incident, we saw a change in the tone of fake news--focussing on a particular community that was being targeted as the 'super spreader'," said Jency Jacob, editor of Boom News, a Mumbai-based initiative that busts fake news. "When it comes to communal posts, only text does not create the sort of required emotional connect with the viewer. And, lay people cannot really figure out whether a video clip is new or old. In contrast, posts about cures, say drinking lemon water, don't really need an image for me to believe it."

4.4 Southern hemisphere will be unaffected!

Several mainstream media houses, including newspapers and news channels, have put out widely circulated

misinformation, showed the study. Even public figures, by not removing the debunked misinformation, have contributed to the propagation of false information. For instance, businesswoman Kiran Mazumdar-Shaw tweeted that countries in the southern hemisphere remain unaffected by the coronavirus outbreak; her engagement with it gave the idea some credence and led to widespread engagement online before and after it was exposed the falseness by Alt News. It is nothing but the mainstream media's complicity.

Though the study could not cite clear reasons as to why mainstream media was sharing misinformation, it hinted that some may simply be out of poor editorial standards in a highly competitive media ecosystem. "One thing that remains clear, however, is that misinformation travels fast," the authors wrote, "and that news sources may increase footfalls through deliberate misinformation or click-bait



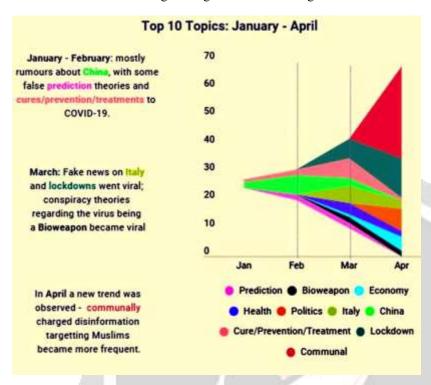
headlines." In such a scenario, "mainstream news sources have been particularly complicit.

4.5 Global increase of fake news and misinformation

The rise of fake news around the COVID-19 pandemic has been unprecedented, leading to fact checkers and health advisors working round the clock to provide accurate information on the disease. Since the beginning of the outbreak, BOOM has published 178 fact checks on misinformation/disinformation around the pandemic. An analysis of our stories revealed that a bulk of the COVID-19-related fact checks were on communal rumours, most of which were false allegations against Muslims, of purposefully spreading the virus. These messages appeared in April, after several members of the Tablighi Jamaat - an Islamic Missionary group, tested positive for the virus following a massive congregation in Delhi in March. We also found evidence suggesting that the number of fact checks published by us had a positive correlation with the number of COVID-19 cases in the country. During this period, as the number of cases grew, so did the number of pandemic-related fact checks by BOOM. While most of the false or misleading claims were circulated with videos (35%), there was also a significant number of text messages (29.4%) being shared with fake cures, treatments or quotes from celebrities, along with images (29.4%) that were either misrepresented or doctored. We also noticed a small number of audio clips (2.2%) going viral with false contexts. A few of our fact checks were on news reports (4%) by mainstream media organisations. Most of these stories were found to make false claims against a particular community. COVID-19 Fact Checks By BOOM While BOOM did its first COVID-19 fact check on January 25, the month of February saw major events like the Delhi Elections, Donald Trump's India visit and the Delhi riots dominate the fake news cycle. There was a drastic change of topic in March, as more COVID-19 related misinformation went viral online.

4.6 China, Russia spreading misinformation: EU

China and Russia were blamed for spewing out false and misleading online information about Covid-19 in a European Union report that seeks to stem the "unprecedented" spread of fake news amid the pandemic. The two nations are among "foreign actors" that sought to "undermine democratic debate" and enhance their



own image through targeted influence operations disinformation campaigns around Covid-19 in the EU. "It would be too dangerous not to act," European Commission Vice Vera Jourova told President in Brussels. reporters The commission has in recent months stepped up pressure on platforms such as Twitter Inc. and Facebook Inc. t to help stem the flow of misleading content about the virus, vaccines or alleged cures on their sites. It's part of a broader goal to fight hate speech and disinformation online that could lead to new EU regulation to make tech giants more accountable and responsible. The EU said in the report there's been "unprecedented infodemic" that has fed on "people's most basic anxieties" as most of them were forced to stay socially confined and revert to increased use of social media.



The EU's findings on China and Russia are based on a separate study by the commission's foreign and diplomatic wing, which said it had evidence of a "coordinated push" by official Chinese sources to deflect blame for coronavirus pandemic promote its response to the virus. EU foreign-policy chief Josep Borrell, who heads the service, has worked with Jourova over the last few weeks on the latest plans. The report comes as Hungary -an EU member state -- faces criticism for preparing a national survey that includes a question on

a coronavirus crisis proposal by investor George Soros that "experts say will force nations into debt slavery."

The accusations against Russia and China reflect EU efforts to find an "external enemy" to paper over European divisions exposed by the pandemic, Leonid Slutsky, head of the foreign affairs committee of the Russian lower house of parliament, said according to state news service RIA Novosti. China's foreign ministry didn't respond to a request for comment. Online platforms will have a key role to play by being more transparent about what's happening online and where misleading information is coming from. A code of conduct on disinformation that five tech giants, including Twitter, Facebook and Google, signed up to so far, is only a first step, said Jourova, adding that ByteDance Ltd.'s social media app TikTok said they also plan to sign up to the code, and that the EU is in negotiations with Facebook's WhatsApp too.

4.7 Social media spreading infodemics!

Facebook, Google and Twitter should provide monthly reports on their fight against disinformation, two senior EU officials said on Wednesday as they called out Russia and China for their roles in the spread of fake news. The comments by EU foreign policy head Josep Borrell and the European Commission's Vice President for values and transparency Vera Jourova underscore the bloc's concerns about the prevalence of misleading news on COVID-19. Microblogging site Twitter said it is introducing new labels and warning messages that will provide additional context and information on some tweets containing disputed or misleading information related to COVID-19. Twitter said in March, it broadened its policy guidance to address content that goes directly against guidance on COVID-19 from authoritative sources of global and local public health information. Moving forward, it may use these labels and warning messages to provide additional security.

4.8 Fake news on South Sudan's Chief Justice Family on covid-19

A WhatsApp message circulating in South Sudan claims the chief justice's son is critically ill with COVID-19. The message claims that the son of South Sudan's Chief Justice Chan Reec Madut is in a critical condition with COVID-19 at the Juba Teaching Hospital in the nation's capital. According to the claim, 32-year-old Kuel Reec Madut flew to South Sudan from London last month and refused to get tested at the Juba International Airport upon his arrival. The post reads: "Breaking News!! South Sudan is due to announce the second case of COVID19, as son to Chief Justice, is in critical condition!! Brother Kuel Reech Madut, has developed symptoms relating to the entire COVID19 pandemic. According to the family members, Madam Mary Athuoi Madut says, our brother has been in critical condition since his arrival from the UK last month but today developed symptoms like cough, fever, shortness of breath (sic)." Screenshot of the false Facebook post circulating on WhatsApp, taken on April 6, 2020 No son by that name South Sudan's health ministry refuted the claims, stating that 14 family members of the chief justice including his children tested negative for COVID-19. The chief justice's daughter Achok Chan shared with AFP photos of the test certificates that were given to her family by the health ministry after completion of the 14-day quarantine period. Furthermore, she told AFP in a phone interview that she did not have a brother called Kuel Reec, as mentioned in posts. She confirmed siblings were Abuk Chan, Reec Chan, Madut Chan, Amiir Chan, Aney

4.9 Neem leaves cannot treat the Novel Corona-virus

Chan, Tong Chan, and John Garang Chan.

A claim that neem leaves can cure the novel coronavirus and relieve its symptoms has been shared thousands of times in multiple Facebook posts. The claim is false; Malaysia's Ministry of Health and medical experts say there is no scientific evidence to support the claim. International health authorities also say there is no cure for COVID-19 as of April 2020. The claim was published on Facebook here on March 22, 2020. The post, which includes two photos of neem leaves, has since been shared over 11,000 times. The post's Chinese-language caption translates to English as: "My dear friends, my Indian employee said using this leaf and turmeric powder for shower can prevent the virus! Let's try! Because up to now, in Malaysia no Indians have been infected with the virus. Hope it really works! The leaf is called Daun semambu in Malay... Indians call it Daun Nim... Not joking!" Other versions of the claim, such as this Facebook post published on March 26, 2020, provide a recipe for boiled neem leaves which is said to alleviate COVID-19 symptoms such as fever, cough, sore throat and shortness of breath. The post, which includes pictures of neem leaves being prepared, has been shared more than 600 times. Here is a screenshot of the misleading post.



4.10 Covid 19 is bacteria, treated with aspirin and sanitizers cause cancer!

PIB, The Press Information Bureau of India fact check's Twitter handle debunked the false claims with a post. Every day we come across various coronavirus related information through social media posts or WhatsApp forwards. One of them is PIB's Fact Check Twitter handle. The department shared a video which is being shared on social media with false claims. The video falsely claims that Sars-Cov-2 is not a virus but a bacteria

"amplified with 5G electromagnetic radiation" and that it can be treated with aspirin. "Claim- A widely circulated video on social media claims that Covid19 is a bacteria & which can be treated with aspirin," the department wrote in the post's caption. It went on to say, "This is Fake" and clarified that "Coronavirus is a virus and there is no specific medicinal cure available yet."

Types of Misinformation			
Category	Instances	Definition	
Culture	62	Messages with cultural references such as to a religious / ethnic / social group or a popular culture reference	
Cure, Prevention & Treatment	37	Messages suggesting remedies (alternative or mainstream), preventive measures, and vaccines-related misinformation	
Nature & the Environment	16	Messages that have references to animals and the environment.	
Casualty	36	Messages relating to deaths, illness of people in the pandemic, including graphic images of suffering (not including doctored statistics)	
Business and economy	15	Messages relating to scams, panic-buying and target businesses with fake positive cases.	
Government	54	Messages have government announcements and advisories or refer to police, judiciary, political parties.	
Doctored statistics	23	Messages that have exaggerated numbers of positive cases or death counts and fake advisories.	

They also shared the video which was being circulated. A few days ago, another coronavirus related fake news

made its way onto social media. Several posts claimed that prolonged used of sanitisers causes skin diseases or cancer. PIB discarded this fake news with a tweet. "Hand sanitizers with 70% alcohol content are recommended for protection against COVID," they tweeted.

4.11 Rumors and conspiracy theories

False info on Indian social media caused a number of citizens to drink cow urine or eat dung, in order to prevent infection, while in Saudi Arabia, camel urine with lime was hailed as a protection against the corona virus. Misinformation about the corona



virus has led to the deaths to at least some 800 people and possibly more, a latest study in the American Journal of Tropical Medicine and Hygiene showed. From losing their eyesight to the loss of life, the spread of rumors, stigma and conspiracy theories exacerbated the suffering of thousands of citizens across the globe. A team of international scientists from various countries, such as Australia, Japan and Thailand, looked at data compiled between December 2019 and April 2020 as part of the study. According to the World Health Organisation, the Covid-19-related infodemic is just as dangerous as the virus itself. False preventive measures, such as various treatments used in Africa and different false medicines or remedies like eating garlic, drinking warm water with lemon slices or having alcohol hinder the fight against the illness.

"We followed and examined COVID-19-related rumors, stigma, and conspiracy theories circulating online, including fact-checking websites, Facebook, Twitter, and online newspapers, and their impacts on public health," the study said. The results revealed that roughly 800 people died from drinking highly-concentrated alcohol in the hope of disinfecting their bodies, while 5,900 citizens were hospitalized after consuming methanol, with 60 people going blind as a result. The scientists also looked into other rumors, such as eating garlic, wearing warm socks and spreading goose fat on one's chest, as treatment for the potentially fatal virus. Conspiracy theories were also monitored, such as the notion that it's a bio-weapon funded by Bill Gates to further vaccine sales.

5. FAKE NEWS AND CYBER PROPAGANDA

Fake news may seem new, but the platform used is the only new thing about it. Propaganda has been around for centuries, and the internet is only the latest means of communication to be abused to spread lies and misinformation.

The fire triangle represents the three elements a fire needs to burn: oxygen, heat, and a fuel. Similarly, fake news requires three different items to succeed. These collectively represent the Fake News Triangle: without any one of these factors, it is unable to spread and reach its target audience.

The first requirement: tools and services for manipulating and spreading the message across relevant social media networks, many of which are sold in various online communities from across the globe. A wide variety of tools and services are available; some are relatively simple (paid likes/followers, etc.), while some are more unusual—some services promise to stuff online polls, while



some force site owners to take down stories. In any case, the tools and services for social media promotion are readily available, both inside and outside the underground scene.

Of course, for these tools to be of any use, social networks have to exist as a platform for spreading propaganda. With people spending more time on these sites as a way to get the latest news and information, their importance in spreading fake news cannot be underestimated. However, there's a difference between simply posting propaganda and actually turning it into something that the target audience consumes. We show what kinds of techniques are used by spammers in order to lure users into viewing their stories.

Studying social media also gives us a view of the relationships between bots and the recipients of social media promotion on Twitter. This gives us an idea of the scope and organization of the campaigns that attempt to manipulate public opinion.

Finally, propaganda campaign always comes with the question: *why*. We discuss the motivations behind fake news: sometimes it's simply a desire for monetary gain via advertising. In other cases, the goals can vary from the criminal to the political. Regardless of the motive, the success of any propaganda campaign will ultimately be based on how much it affects the real world.

6. COUNTER MEASURES AND ROLE OF UNDP



The challenge today is that disinformation and misinformation tools and tactics are now literally at the fingertips of anyone who wants to co-opt COVID-19 for their own agenda, including government agencies. For example, researchers at the Bruno Kessler Foundation analysed 112 million public social media posts related to the pandemic and found that 40 per cent came from unreliable sources, and that almost 42 per cent of over 178 million tweets related to COVID-19 were by bots. Meanwhile, Reuters Institute found that around a third of

social media users have reported seeing false or misleading information about the coronavirus, while research by Pew suggests that people who receive their news primarily through social media are more likely to be exposed to false content.

In Somalia, where some of the most influential voices are sheikhs and imams (religious leaders), UNDP joined with the Office of the Prime Minister and the Ministry of Endowments and Religious Affairs for a three-day campaign in Mogadishu, led by Shekih Ali Dheere and other senior figures. UNDP is also Somalia's Ministry supporting Endowments and Religious Affairs to set up a website that will provide guidelines for safe burial techniques and help mobilize the religious community to donate and deliver supplies like masks and soap and to host various information resources.

In Lebanon, UNDP, in partnership with the Ministry of Information, WHO and UNICEF, launched a national campaign to counter the spread of false information, to reduce public vulnerability to information pollution and to build government capacity to counter it. A fact-checking site is being developed and an awareness campaign was launched to encourage the public to stop and think before sharing information. In Guinea-Bissau, UNDP and the Ministry of Health supported the development of a fact-checking site (www.nobaschecker.org), which helps Lusophone citizens access trustworthy information on COVID-19.



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BIOGRAPHIES



A science communicator and media science researcher by choice, a PhD research scholar on science communication of University of Calcutta, an author, a radio programmer on popular science and also Gazetted officer of Government of West Bengal, Information and Cultural Affairs Department. Various research paper have already been published in Google scholar, Scopus indexed and also UGC enlisted journals in the last 7 years and his research papers have already been selected several times in India Science Congress Association since 2011. He completed certificate course on science communication conducted by Indian Science News Association-DST, Govt of India and University of Calcutta and his project stood 1st and published. Already 11 books have been published by this young researcher. He has a vast knowledge of 17 years from the media industry and now he serving to the Government on the same platform.



She was the first candidate to clear the NET - GRF,SRF (National Eligibility Test) in Journalism and Mass Communication in India and started doing research in the Department of Journalism and Mass Communication in India. She was a Premchand Roychand Scholar and is the only one in Journalism and Mass Communication in the University of Calcutta in its glorious 152 years history. University of Calcutta being the oldest University established in India. She was awarded the D.Litt from the Department of Journalism and Mass Communication, Berhampur University on "Television and Internet as Entertainment Media and its Impact on Society".Her research works are published in different Peer Reviewed Journals.Her books are authenticated and exceptional research works. Journalists and Media Personals and Renowned Accademecians across the world comes to meet her in Calcutta. She is guiding many students for their Ph.D internationally and nationally and already many students have been awarded Ph.D under her guidance. She has done her Ph.D in "Newspaper Advertising". One of the most authenticate research work done and is still available in the Central Library of University of Calcutta..

