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The Battle for Truth on Water, Climate and the Environment

The impact of information influencing campaigns

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Introduction

The emergence of different types of information influencing activities in the context of climate change and increasing water scarcity, including some targeted at various water cooperation dialogues, has the potential to undermine the ability of national governments to effectively address issues related to climate change. It can also hinder the implementation of necessary adaptation or mitigation policies, as well as necessary compromises in water negotiation processes.¹ Lessons from studies on the climate and security nexus show that failure to deliver on climate commitments can have security implications.² More specifically, the widespread use of information manipulation campaigns on the causes and impacts of climate change, water scarcity and water resources in transboundary basins negatively affects the environment in which political will is generated to find and implement solutions to these challenges.

The 'Deny, Deceive, Delay' report details the efforts of the Climate Action Against Disinformation group before the 2022 Conference of the Parties (COP) to the UN Framework Convention on Climate Change (UNFCCC) in Sharm El-Sheikh, Egypt.³ The report identifies a staggering number of disinformation campaigns against the summit and how significant funds were spent on spreading misinformation and disinformation about climate change and the climate negotiations. For example, the report shares a key finding that 3781 ads on Meta were active from fossil fuel-linked entities, which spent roughly USD \$3–4 million between 1 September and 23 November 2022 on Facebook and Instagram.⁴

¹ Swedish Civil Contingencies Agency (MSB), *Countering Information Influence Activities: A Handbook for Communicators* (MSB: Karlstad, 2019).

² Schwartzstein, P., 'Climate, water, and militias: A field study from southern Iraq', Center for Climate & Security, Council on Strategic Risks, Briefer no. 39, 11 Jan. 2023; and International Military Council on Climate & Security, Council on Strategic Risks et al., *World Climate and Security Report, 2021*, June 2021.

³ King, J., *Deny, Deceive, Delay* (vol. 2): *Exposing New Trends in Climate Mis- and Disinformation at COP27* (Institute for Strategic Dialogue: London, 2022).

⁴ King (note 3), p. 5.

BOX 1. GLOSSARY

Disinformation

Intentionally deceitful information that seeks (a) to erode trust in governments and public agencies, evidence and science-based reports, and policies of legitimate governments; (b) to weaken democratic dialogue in societies; and (c) ignite chaos and foster polarization in societies. Disinformation thrives in crisis environment and in times of uncertainty.

Misinformation

Unknowingly misleading information shared without prior ambition to influence behaviour of an individual or a group. In some cases, it can have similar impact as disinformation but the main difference is that the content was not deliberately designed to cause harm.

Information influencing

Different types of activities aimed at influencing the behaviour of groups, communities and/or states through sharing faulty information in different forms. Includes deep fakes, social and cognitive hacking, deceptive identities, technical exploitation, disinformation, malicious rhetoric and symbolic action.^a

^a Swedish Civil Contingencies Agency (MSB), *Countering Information Influence Activities: A Handbook for Communicators* (MSB: Karlstad, 2019), p. 19.

Information influencing activities is a broad term for different types of information manipulation and misinterpretation.

Disinformation refers to deliberate information manipulation by a third party (state or non-state actors, and their proxies) through various means, such as fabrication, manipulation, misappropriation and parody.⁵ The aim is to increase uncertainty, derail policies and undermine governments and international actors, and to sow mistrust and heighten polarization in societies. Unintentionally sharing false information, or misinformation, while not deliberate, may have the same negative consequences.⁶ For the purposes of this brief, the main focus is on deliberately produced content for social media, including communication platforms such as Telegram.

As with disinformation campaigns related to the Covid-19 pandemic and vaccination programmes, disinformation focused on climate change and water issues erodes trust in science, national governments and international organizations.⁷ More specifically, this, for example, includes bot-generated hashtags like #ClimateScam which trends on social media alongside hashtags like

#climatecrisis and #climateemergency.⁸ Deniers of the concept of anthropogenic climate change have been able to draw on faulty science to advance their political agenda. Groups that generate misleading and flawed science not based on proven facts publish their findings in journals that have the appearance of being scientific. This content is then used by various information influencing campaigns to support claims that climate change is not human-induced.

Many leaders face difficult decisions on the implementation of climate adaptation and mitigation policies. Those involved in transboundary water negotiations must often resort to decision making under conditions of deep uncertainty, which are also highly sensitive to public opinion.⁹ The inability of national governments to design and

⁵ Wolff, L. and Taddicken, M., 'Disinforming the unbiased: How online users experience and cope with dissonance after climate change disinformation exposure', *New Media & Society*, 18 May 2022.

⁶ International Telecommunication Union (ITU) and UNESCO, Broadband Commission on Sustainable Development, *Balancing Act: Countering Digital Disinformation While Respecting Freedom of Expression, Broadband Commission Research Report on 'Freedom of Expression and Addressing Disinformation on the Internet'* (ITU: Geneva, 2020), p. 18.

⁷ Oria, V., 'Science misinformation distorts public policy priorities, erodes trust in institutions, and hurts communities', *Alliance for Science*, 20 Mar. 2023.

⁸ King (note 3), p. 6.

⁹ 'Decision Making Under Deep Uncertainty (DMDU) begins with a proposed strategy and continues with stress tests of that strategy using multiple model runs to understand how that one strategy would perform under a range of plausible future conditions. Stress tests identify conditions under which a

implement policies based on verified scientific evidence is a security risk as it reduces the ability and willingness of state actors to respond effectively to climate- and water-related risks to human security. It also erodes democratic principles and values.

Disinformation, myths and various types of misconceptions are often mentioned in discussions on armed conflict and geopolitical tensions. This is certainly more common than assessments of the impact on the vulnerability of those affected from a human security perspective. Inadequate access to safe drinking water, in terms of both quantity and quality, is an intersection between human security—with its focus on people, impacts on individuals and the human right to water—and national security (the impacts on transnational water issues). Several water negotiation processes in geopolitically complex environments, such as the Eastern Nile, the Euphrates and the Tigris, and the Jordan River Basin, have been affected by the spread of disinformation focused on the causes of water scarcity, the ambitions of upstream countries, inefficient downstream water use or the influence of external actors. Populations in these regions are negatively affected by the lack of transboundary water cooperation. Fragile states with water scarcity problems, such as Somalia or Iraq, have been a hotbed of armed non-state actors using disinformation campaigns related to water scarcity to drive their recruitment among small-scale farmers who have lost their livelihoods due to drought.

Disinformation focused on climate change and water issues erodes trust in science, national governments and international organizations

Methodology

To narrow the focus of the case studies, this policy brief focuses on information manipulation, mainly disinformation, spread through social and online media. Further studies of campaigns on audio-visual media could be included in a future, more detailed study on this topic. The two case studies were selected to cover different aspects of climate and water information manipulation. Ukraine is a case of manipulated information on water availability during a war, as a result of Russian aggression. The focus in this case is on human security. The Eastern Nile case provides examples of information manipulation in the context of transboundary/transnational negotiations and the role of social media. The subsequent section focuses on the information landscape of climate- and water-related disinformation during armed conflicts.

Information interference and manipulation: Water, the environment and climate change

Climate change denialism and disinformation are not new phenomena.¹⁰ The spread of disinformation through social media is of particular interest due to the speed at

proposed strategy performs well and conditions under which it performs poorly. Rather than seek confidence in a specific model, one is seeking confidence in a decision'. *US Climate Resilience Toolkit*. Methods in DMDU include scenario planning, adaptive pathways, robust decision making and decision scaling. *US Climate Resilience Toolkit*, 'Decision making under deep uncertainty' [n. d.].

¹⁰ Krugman, P., 'Climate denial was the crucible for Trumpism', *New York Times*, 3 Dec. 2018; and Cook, J., 'Understanding and countering misinformation about climate change', eds I. Chilwa, and S. Samoilenko, *Handbook of Research on Deception, Fake News, and Misinformation Online* (IGI-Global: Hershey, PA, 2019), pp. 281–306.

which it spreads and its reach, which knows few boundaries. While the trend is not new, according to the European Digital Media Observatory (EDMO), the problem of disinformation is getting worse in many parts of the world, including Europe.¹¹

Rather than climate-related security risks, research on climate change misinformation and disinformation has typically focused on inaction and delays in implementation of climate mitigation and adaptation policies.¹² Further to this, climate mis- and disinformation stemming from fossil fuel companies is a significant part of climate-related information influencing. In this brief, we are focusing on specific cases and disinformation shared mainly on social media platforms. Misinformation and disinformation have been included in the World Economic Forum Global Risks Report (GRR) since 2013. In 2023, the GRR stated that 'misinformation and disinformation' together have the potential to erode social cohesion in the long term and destabilize trust in information and political processes. Misinformation, disinformation and 'biodiversity loss and ecosystem collapse' are all predicted to become severe factors in the long term.¹³

In 2022, the Intergovernmental Panel on Climate Change (IPCC) named climate change misinformation and the 'politicization of science' as major barriers to action for the first time, and the disregard of risk and urgency as key challenges to tackling climate change.¹⁴ Climate misinformation and disinformation surge following UNFCCC meetings, including the 2021 COP in Glasgow, Scotland in November 2021 (COP26) and COP 27 in Sharm El-Sheik in November 2022. This increases climate change denialism and delays climate action, reducing confidence in consensus science.¹⁵

Water and climate change are inextricably linked. Over 90 per cent of climate change impacts are water-related—either too much, too little or too polluted. However, there has been little or no research on the security risks linked to water- and climate-related misinformation and disinformation. While conflict between countries over water is extremely rare, conflict over water within countries more than doubled between the 2000s and the 2010s.¹⁶ Conflict over water has moved to cyberspace and is being driven by hackers and social media influencers.¹⁷ As climate change continues to exacerbate both water scarcity and water-related hazards, rising temperatures disrupt precipitation patterns and the entire water cycle. All the while, the opportunities grow for actors to exploit climate- and water-related misinformation and disinformation. Water stress and the failure of governments to adequately address it, coupled with disruption from social media, can spur political instability.

¹¹ European Digital Media Observatory, 'Disinformation about climate change: Main narratives in June at the European level', 21 July 2022.

¹² Kremidas-Courtney, C., 'Climate disinformation is killing the planet', Friends of Europe, 2 Nov. 2022; and d'I Treen, K. Williams, H. T. P. and O'Neill, S. J., 'Online misinformation about climate change', WIREs Climate Change, 18 June 2022.

¹³ World Economic Forum, *The Global Risks Report 2023: Insight Report*, 18th edn (World Economic Forum: Geneva, 2023).

¹⁴ Intergovernmental Panel on Climate Change et al., *Climate Change, 2022: Impacts, Adaptation, and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change (Cambridge University Press: Cambridge, 2022); and King (note 3).

¹⁵ King (note 3).

¹⁶ Schoonover, R., Cavallo, C. and Caltabiano, I., *The Security Threat That Binds Us* (Council on Strategic Risks: Washington, DC, 2021).

¹⁷ Mersie, A., 'The Ethiopian–Egyptian water war has begun', Foreign Policy (blog), 22 Sep. 2020.

Case studies

Water disinformation during armed conflict: The case of Ukraine

Since Russia unleashed its full-scale aggression against Ukraine in February 2022, it has been systematically targeting critical civilian infrastructure, including the water supply.¹⁸ According to Ukrvodokanal, the Ukrainian water association, Russia's destruction of the Kakhovka dam in June 2023 has had unprecedented consequences. Around 880 000 people lost access to the central water supply, directly endangering their lives and health.¹⁹ The attack on the Kakhovka dam was also surrounded by disinformation generated and disseminated by Russian officials and media blaming Ukraine for its destruction.²⁰

Physical water infrastructure has not been the only target. Water consumption and access are also affected by disinformation spread by Russian media and state-affiliated actors through various channels, including social media platforms. Disinformation narratives have especially targeted those living in regions most vulnerable to water shortage due to rising temperatures. Disinformation narratives frequently target residents of Odesa, Mykolaiv and Kherson, for example, in southern regions of Ukraine where drinking water resources are limited and there is greater dependency on the central water supply.

Mykolaiv is a telling case. On 12 April 2022, an attack by Russian forces on the Dnipro–Mikolaiv water pipeline²¹ in the Kherson region left Mykolaiv, a city of nearly 500 000 inhabitants, without drinking water. A water supply was re-established in each district by bringing drinking water from neighbouring regions, involving distribution points and schedules for water collection. In a context of scheduled water deliveries and only non-potable water in the pipes, Russian media systematically generated and disseminated disinformation narratives that were transmitted online.²²

There were three main narratives. The first was that there was no drinking water in Mykolaiv, and that the city and regional authorities had left the city and no one was seeking a solution. This narrative aligned with another frequently used narrative that there would be no social payments or other basic services provided by local authorities and that citizens would be left to their own devices. The second narrative was that the drinking water in Mykolaiv had been contaminated with cholera.²³ The third narrative was that the humanitarian aid being brought to Mykolaiv, including water, would not be distributed to the most vulnerable groups in society: children, the elderly and people with disabilities.

¹⁸ Shyrokykh, K. and Zasiadko, Y., 'Post-war reconstruction of Ukraine and the role of the Nordic Countries', NordForsk, *Fast Track to Vision 2030*, 22 Aug. 2023.

¹⁹ Ukrvodokanal, Ukrainian water association, *Current State of the Water Supply Industry in Ukraine*, Aug. 2023 (in Ukrainian).

²⁰ Stepanenko, V. and Blann, S., 'Major dam collapses in southern Ukraine, flooding villages as Moscow and Kyiv trade blame', AP, 7 June 2023.

²¹ Zhuhan V. and Ibrahim, N., 'Russia accused of sabotaging Ukraine water pipe to Mykolaiv', BBC News, 25 Oct. 2022.

²² Dvortsova, O., 'Миколаїв за три дні та епідемія холери: які фейки поширювала росня про наше місто' [Mykolaiv in three days and the cholera epidemic: what fakes were spread by Russians about our city], 0512.ua, 13 Nov. 2022.

²³ Dvortsova (note 22).

Such narratives have the potential to undermine the health of civilians, and their access to drinking water and life-saving humanitarian assistance. Such disinformation is typically spread anonymously through Telegram channels. The aim is to spread mistrust in the city and regional authorities, as well as panic among the population.

While the primary purpose of such narratives is probably to undermine trust in city and regional authorities as service providers, according to a recent report by CIVIC, if civilians believe these messages this discourages them from seeking out available critical goods and services.²⁴ They also cause psychological stress and prompt people to flee their homes when it is unnecessary, thereby undermining their health and well-being.²⁵

Drinking water is essential to human health and life. Undermining access to it either physically by destroying water infrastructure or through disinformation deprives people of resources that are essential for survival

Drinking water is essential to human health and life. Undermining access to it either physically by destroying water infrastructure or through disinformation deprives people of resources that are essential for survival. Disinformation about access to or the quality of water alongside other essential services has been used widely and systematically during the war in Ukraine.²⁶ This disinformation has been targeted at the

most vulnerable regions and societal groups: the sick, the elderly and people with disabilities in areas where Russia has destroyed centralized water infrastructure.

Disinformation and influence campaigns during water negotiations: The case of the Eastern Nile

A February 2023 UN General Assembly panel discussion on 'Conflict, Climate and Cooperation' warned that the number of transboundary basins facing tension will rise as climate change continues to exacerbate water scarcity.²⁷ Both water disputes and calls for water cooperation have already increased in recent years. Conversations are most likely to be about physical water and intellectual/mental water while, more often than not, water conflicts are a result of emotional water or spiritual water.²⁸ On social media, these conversations are shaped by narratives that maximize emotions using images, texts and numbers to garner support from their target audience.

This fits with the definition of 'new public diplomacy' as public diplomacy that takes advantage of social media to provide a two-way platform for public diplomacy actors

²⁴ Center for Civilians in Conflict (CIVIC) *When Words Become Weapons: The Unprecedented Risks to Civilians from the Spread of Disinformation in Ukraine*. CIVIC, Oct. 2023; and Centre for Countering Disinformation, 'Enemy Telegram channels are spreading a message about the alleged drop in the quality of tap water in Ukraine, the use of which can lead to epidemics', 12 Dec. 2022.

²⁵ Center for Civilians in Conflict (note 24); and Centre for Countering Disinformation (note 24).

²⁶ Ukrinform, 'Reports circulating on Russian Telegram channels about the alleged decline in the quality of tap water in Ukraine and the fact that its use can lead to epidemics is not true', 10 Dec. 2022. See also Center for Civilians in Conflict (note 24).

²⁷ United Nations, General Assembly, 'Conflicts over water will become more common without science-based water diplomacy, panel tells UN General Assembly', Press release, 7 Feb. 2023.

²⁸ Physical water is water that can be moved, touched and felt, such as in lakes, rivers or taps. Intellectual/mental water is the water that is calculated, assessed, used, subjected to efficiencies, priced, etc. Emotional or spiritual water is water tied to power, sovereignty, historical grievances and narratives. United Nations, General Assembly (note 27).

to engage with non-domestic public opinion,²⁹ as well as 'digital diplomacy' which is the use of digital tools or social media to achieve foreign policy and diplomatic aims.³⁰

In the Nile River Basin, construction of the Grand Ethiopian Renaissance Dam (GERD) on the Blue Nile has been a source of conflict between Ethiopia, Sudan and Egypt for many years. Ethiopia continues to assert its right to use its share of the Nile waters through construction and operation of the GERD. Egypt and Sudan have become more vulnerable to climate change amid increased water demand linked to development and population growth, as well as decreased water availability in the basin. Conversations about the GERD between diplomats, journalists and the public have established that social media has continued to provide not just a great platform for new public diplomacy or 'digital diplomacy', [missing an opening quote mark] but also misinformation, disinformation and fake news.³¹

A study on the GERD exploring the role of social media in conflict transformation in transboundary basins, undertaken between 2019 and 2022, established that diplomats, journalists, local people and foreign audiences on social media all used misinformation and disinformation narratives on the GERD to push their viewpoints.³² Different factions accuse each other of misinformation or disinformation. For instance, a group of Egyptian journalists launched a social media campaign dubbed 'Let Nile Flow' aimed at supporting Egypt in the GERD negotiations.³³ However, Ethiopian scholars raised concerns about misinformation on the GERD in the media.³⁴ The narratives on social media are framed mainly around the greatest 'beneficiaries' from and 'owners' of the Nile River and the GERD. They are mired in emotion and structured to suggest that different social groups are either for or against the GERD.

On X, formerly known as Twitter, misinformation and disinformation narratives have been used to create and promote a sense of ownership of the GERD using #ItsMyDam, #ItsHerDam, #ItsHisDam, #ItsOurDam, #OurDam, #HandsoffEthiopia and #Itsethiopiandam. The most controversial hashtag is #OurDam, a hashtag that raises the critical question of whether the GERD belongs only to Ethiopians, or also belongs to the Kenyans, Egyptians and Sudanese who will benefit from it too? The OurDam hashtag is used not only against those who oppose the GERD, but also to bolster support from foreign audiences. The hashtag OurDam targets both local and foreign public opinion based on two main arguments: that the money, the land and the river, as well as the workforce are all Ethiopian; and that the GERD will also benefit neighbouring countries, and most importantly women in those countries.

²⁹ Pamment, J., *New Public Diplomacy in the 21st Century: A Comparative Study of Policy and Practice* (Routledge: London, 2012).

³⁰ Sotiriou, S., 'Digital diplomacy: Between promises and reality', eds Bjola, C. and Holmes, M., *Digital Diplomacy: Theory and Practice* (Routledge: London, 2015), pp. 33–51.

³¹ Melissen, J., *Beyond the New Public Diplomacy* (Clingendael: The Hague, 2011); and Bjola, C. and Jiang, L., 'Social media and public diplomacy', eds C. Bjola and M. Holmes, *Digital Diplomacy: Theory and Practice* (Routledge: London, 2015), pp. 71–88.

³² Abumba, J. B., 'Digital water diplomacy: The role of social media and webinars in Nile water conflicts transformation', Masters Thesis, Local access, Repository IHE Delft Institute for Water Education.

³³ El-Khawaga, H., 'Egyptian journalists launch "let Nile flow" Initiative', Sada Elbalad English, 1 July 2020; and Al-Monitor, 'Can social media campaigns change course of Nile dam talks?', 21 July 2020.

³⁴ Deribe, M. M., 'Opinion: The international media's misrepresentation of Ethiopia on the GERD', Addis Standard, 14 Apr. 2020.

The latter point is widely seen as controversial. Across the hashtags, 27 emotional images of low-income women carrying large loads of firewood or working in smoky kitchens were continually retweeted to depict women suffering due to lack of electricity. Subsequently, 12 per cent of the 32 hashtags used the #ItsHerDam to convey that women are the ones suffering most due to a lack of electricity.³⁵ These tweets were shared mostly by Ethiopians and those supportive of the GERD with a key message that following completion of the GERD, these women would be the greatest beneficiaries of the electricity that would be generated.³⁶ Diplomats interviewed argued that while images of women suffering were being used on X to gain support for the GERD, the involvement of women in the negotiations was minimal.

Tweets on X about the GERD link misinformation and disinformation narratives to the wider discourse on conflicts over transboundary waters. X continues to reproduce narratives that not only contribute to biased and nationally focused standpoints, but also counter arguments based on scientific fact that could foster transparency. X should provide more opportunities for both diplomats and the public to have more meaningful conversations and water diplomacy dialogues. Journalists should also make greater efforts to be objective and truthful in their reporting in order to minimize conflicts.

Disinformation and armed conflict: A reflection

Disinformation is typically perpetrated by either state or non-state actors, including individuals and organized groups. It is created, spread and amplified both organically, by people who believe it, and artificially through campaigns that make use of technology such as bots and recommender algorithms.³⁷

The wilful dissemination of faulty or misleading information, also referred to as disinformation and misinformation, is a substantial obstacle in the realm of water governance, particularly in periods marked by conflict. The impact of disinformation on how water is managed and governed becomes even more pronounced in such situations. Conflict zones frequently have a heightened occurrence of disinformation that is strategically designed to distort public perceptions on issues related to water.

During conflicts, it is possible that mainstream media and responsible institutions might inadvertently amplify disinformation by assigning equivalent significance to contrasting perspectives on water-related issues. In the name of providing unbiased journalism, this particular methodology can result in a flawed interpretation of the level of consensus among scientists and the public, leading to misrepresentation of factual information.

The occurrence of disinformation during conflicts can be seen from a range of perspectives. Disinformation can be strategically employed to manipulate public sentiment. Such campaigns also frequently use hyperbole when discussing

³⁵ Beza Tesfaye (@ke_Beza), Twitter/X, 24 June. 2020, <https://twitter.com/ke_Beza/status/1275747233569427456>.

³⁶ Zerihun Megersa Jimma (@zerihunmegersaj), Twitter/X, 14 May 2023, <<https://twitter.com/iyoba4u/status/1657781319940669451>>; and Zerihun Megersa Jimma (@zerihunmegersaj), Twitter/X, 22 Feb. 2022, <<https://twitter.com/zerihunmegersaj/status/1495914902371938311>>.

³⁷ International Telecommunication Union and UNESCO (note 6), p. 18.

water-related difficulties. This can prevent recognition of the gravity of the challenge and the importance of taking appropriate measures. Disinformation can magnify uncertainties, primarily by raising doubts about accessibility, reliability and the attribution of water-related issues to human activity, or by minimizing the severity of the impact by arguing that impacts are insignificant or even beneficial. Moreover, conflicts present an opportune backdrop for casting doubt over professional conclusions, primarily because monitoring can become difficult if not impossible.

To ensure the efficacy of water governance in times of conflict, it is important to prioritize the mitigation of disinformation. The coordinated efforts necessary to identify reputable sources, refute misinformation and promote responsible and evidence-based debate on water resource management are even more important in conflict zones.

In conflict situations, it is imperative to take a comprehensive approach that addresses both supply side and demand side factors in countering disinformation. The International Telecommunication Union and UNESCO's Broadband Commission on Sustainable Development argue that different categories of response are synergistic and symbiotic in nature, and work separately but interdependently to counter disinformation.³⁸ To address the demand side, it is essential to implement methods that target the consumers of information. These strategies must include increasing information literacy for general users and awareness-raising campaigns that prioritize the development of critical thinking skills, fact-checking abilities and media literacy. Concurrently, it is imperative to implement supply side strategies that address the root causes of disinformation. These strategies should involve regulatory frameworks, content moderation practices on digital platforms and the promotion of genuine, verifiable content to effectively curb the proliferation of disinformation. In the intricate realm of disinformation on water governance, it is essential to develop a comprehensive plan that addresses both supply side and demand side aspects. Experience shows that it is not feasible to respond to every disinformation campaign on a large scale over an extended period of time.³⁹ Instead, governments should invest in effective communication mechanisms on the genuine causes and consequences of climate change and the appropriate solutions that will need to be adopted. Communication on issues like climate change and water need to be fact-based and evidence-based. It should enhance sober and scientific discussion rather than trigger a polarized and emotionalized debate.

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³⁸ International Telecommunication Union and UNESCO (note 6), p. 250.

³⁹ Swedish Civil Contingencies Agency (note 1).

Policy recommendations and conclusions

Governments must treat water- and climate-related information influencing and manipulation as a serious security risk

Recommendations for governments and multilateral organizations

The most effective measure to make societies more resilient to disinformation campaigns is a focus on education on communication. A communication strategy would need to be tailored to different audiences at different levels from the wider community to different national, regional and global sectors. At the same time, governments should invest in educational campaigns on climate- and water-related disinformation. In some cases, these communication and knowledge campaigns should have a transnational character as the challenges go beyond national borders. Education and communication awareness campaigns are an important long-term step towards information influencing resilience. Climate change-focused disinformation campaigns are designed in the same social and political context as other polarized social issues (e.g. opposition to renewable energy projects, conspiracy theories around vaccines and the Covid-19 pandemic, controversies around mis- and disinformation on nutrition, migration and xenophobia). This means that the proliferation of mis- and disinformation not only unfolds across platforms but also across social issues and political communities. For example, there is a growing number of political parties in different EU member states that have built their political agenda around climate denial. This is a complex reality that needs a systematic approach from both governments and academic/expert communities.

Media awareness campaigns can also help to inform the public of what to look out for on social media and to be critical of what is spread over the internet. National governments and intergovernmental organizations should start a dialogue with big tech companies as well as other tech developers on shared responsibility for communicating about one of the greatest challenges facing humankind.⁴⁰ Reports have shown that big tech companies continue to benefit from advertisements linked to climate change denial campaigns.⁴¹ At the local level, the Ukraine and Nile case studies show that disinformation can fuel conflict, increase the suffering of communities during armed conflict and thwart efforts to establish an environment that enables negotiations over shared water resources. Monitoring cyberspace and the tools that enable the spread of these campaigns is a shared responsibility for those who design these tools and the jurisdictions where the companies operate.

Finally, governments and other actors funding climate- and water-related research should ensure that part of the funding is channelled into effective communication campaigns targeted at the general public, and not just their academic peers. Funding contributions to engage communication experts to share the results of evidence-based research should be made mandatory.

⁴⁰ King (note 3), pp. 5–7.

⁴¹ Wichowski, A., *The Information Trade: How Big Tech Conquers Countries, Challenges Our Rights, and Transforms Our World* (Harper Collins: New York, NY, 2020).

Recommendations for scholars and experts: more work is needed

This policy brief has discussed various examples of disinformation campaigns in the context of water cooperation and the impact of armed conflict on water infrastructure. These cases show that the spread of misinformation and disinformation affects the ability of state actors and multilateral organizations to find sustainable solutions. However, the extent of the security risk under each particular circumstance needs to be better understood. There is a causal connection between the impact of information influencing campaigns, effective water and climate governance in affected communities, and resilience to the increasing impacts of climate change. We must deepen our understanding of the major triggers of these campaigns and the extent of the security risks they pose.

Technology is rapidly evolving and the tools to spread ever more realistic and believable information will only expand with these advances. The use of 'Deep fakes' in the context of water and climate is an underexplored area.⁴²

Ensuring that future generations have a positive view of science is vital to a sustainable future. Engaging youth and young professionals in a dialogue on the impact of social media on climate change and water will be essential to achieving a sustainable and equitable future.

Information influencing campaigns must be treated as a serious threat to the ability to combat climate change and improve water governance in fragile and conflict-affected countries. These campaigns undermine the ability of governments and other actors to effectively deliver on their commitments—most notably the Sustainable Development Goals/Agenda 2030 and the Paris Agreement—and continue to erode trust in evidence-based science.

⁴² Galaz, V. et al., 'Climate misinformation in a climate of misinformation', Research brief (Stockholm Resilience Centre and the Beijer Institute of Ecological Economics: 2023).

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