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The American University in Cairo
School of Global Affairs and Public Policy

Solutions Journalism and Climate Change Journalistic Narratives: Comparative Insights from Egypt and the United Arab Emirates

A Thesis Submitted by

Nouran Mohamed Nour ELDine Abdo AbdelGhaffar

to the Department of Journalism and Mass Communication

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In partial fulfillment of the requirements for the degree of
Master of Arts in Journalism and Mass Communication

Under the supervision of
Professor Sarah El-Richani

Abstract

Climate change and global warming have been considered among the most significant and pervasive threats of our time. To tackle the climate crisis, journalism has been deemed crucial in informing, educating, and fostering public understanding of climate change. However, research shows that traditional climate change journalism fails to empower readers or drive their support for climate action. Due to the heavy nature of the issue, climate change news tends to be massively negative. Too much negative information can cause severe psychological impacts and spur news avoidance. Along these lines, solutions-focused climate change reporting presents a juncture for introspection. Solutions journalism is rigorous and compelling reporting about responses to social problems. Focus on the positive while not ignoring the negative; a solution approach could help expand climate coverage by changing the traditional depressing narrative around the climate change discourse and sharing the stories of effective climate responses to mitigate its effects. Despite the academia's growing interest in solutions journalism, there is not an abundance of literature available in the Global South countries' context, namely the Middle East and North Africa. This study aims to fill the void of academic research in this area while giving a first-hand account of expanding global understanding of the current local practices of solutions-focused climate change reporting in Egypt and the United Arab Emirates (UAE), the two Arab countries hosting COP27 and COP28. Having COP27 held in Egypt and COP28 in the UAE presented a significant chance to advance ambitious climate measures in the MENA region and promote practical solutions, projects, and efforts on a global scale. This study employs a mixed-methods approach, utilizing both quantitative and qualitative methods. The research explores how prominent Egyptian and Emirati news websites report climate change using a solutions lens and interviews solutions and science journalists based in the two countries to gain

insights into their practices and perceived challenges. The findings provide crucial insights into the evolving state of solutions journalism in local climate reporting, revealing disparities between journalists' perspectives and quantitative content analysis. Despite fluctuating editorial attention, the study exposes local media's inadequate and temporary climate coverage. While recognized as crucial, solutions journalism faces gaps in its presentation, indicative of the influence of positive journalism and the interplay of political sensitivities and editorial decision-making. The findings also highlight broader challenges in local climate journalism in Egypt and the UAE, emphasizing the need for context-tailored approaches. Finally, this study propose a model based on practices by journalists, addressing challenges, fostering compelling storytelling and offering practical insights for a more informed discourse on climate change.

Keywords: climate change, solutions journalism, climate journalism, Egypt, the United Arab Emirates, COP27, COP28.

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Chapter One: Introduction

As early as 1998, journalists started to observe a new form of journalism coming to light and challenging the traditional news media approaches. In her article in *Columbia Journalism Review*, Susan Benesch (1998), an American journalist and scholar, documented some of the early efforts at “Solutions Journalism,” where journalists look at solutions to social problems and why they work. Newspapers, namely the Los Angeles Times, New York Times, San Diego Union-Tribune, as well as magazines like *The Nation*, and broadcast shows such as ABC News’ *World News Tonight*, all featured stories that underline potential solutions to societal problems in an effort to “correct a chronic imbalance in Journalism.” (Benesch 1998, para. 3). Benesch elucidated, “As journalists, we often write about a social problem, then let other institutions, like the government, worry about the solutions. But in the past year or so, “solutions journalism,” reporting on efforts that seem to succeed at solving particular social problems, has blossomed in news organizations across the board” (Benesch, 1998, para. 10). In this regard, Benesch recognized the difference between solutions journalism and good journalism in one simple way as solutions stories as she argued, “instead of pointing out what’s wrong in the hope that someone will fix it, solutions journalism points out what’s right, hoping that someone can imitate it” (Benesch 1998, para. 39). In 1999, solutions journalism was first raised in the scholarly literature when Davies (1999) proposed solutions-focused journalism to restrain corporatization of journalists. He argued that this approach “does not deny the value of negative news; it simply argues that rather than endlessly reporting failure, “leaving someone else to fix it”, sometimes things work out” (p. 62).

Although solutions-based stories have existed since the 1990s, the practice was still under development until the early 2010s. In 2010, New York Times journalists David Bornstein and

Tina Rosenberg initiated an opinion series called “Fixes” from 2010 to 2021. On a weekly basis, Fixes offered different stories that examined effective approaches to major social problems and whether they worked for the community implementing the solution. This column set the scene for a distinct and new form of journalism called “Solutions Journalism” (Bornstein & Rosenberg, 2021). In 2013, two of the Fixes authors co-founded Solutions Journalism Network (SJN) with calls to actively incorporate this genre into journalistic practices (Solutions Journalism Network, n.d.a). SJN is an independent, non-profit organization that stands up for solutions-centered reporting. SJN defines its mission as supporting and connecting journalists interested in “rigorous reporting and compelling reporting about responses to social problems” (para. 2) to complement coverage of problems, enhance quality journalism, and promote meaningful social change (Solutions Journalism Network, n.d.b). So far, more than 1900 news outlets and 6,000 reporters across 190 countries have embraced and consolidated solutions journalism into their reporting to advocate that news coverage can be more than problem-focused (Solutions Story Tracker, n.d.). For each story, SJN identifies four pillars for solutions reporting: responding to a social problem, offering insight, using evidence, and reporting on limitations (Solutions Journalism Network, 2020).

Driven by the increasing professional wave toward a solutions-based narrative, academia’s interest in solutions journalism has gained traction to spotlight the uptick in solutions journalism and analyze emerging practices and implications. In their systematic review of existing literature on solutions journalism, Lough and McIntyre (2021a) identified 73 peer-reviewed articles and 21 theses/dissertations on solutions journalism, each tackling different theoretical and methodological approaches illuminating solutions stories’ conceptualization, production, and effects. Several scholars have argued how this emerging form of journalism

raises several interesting questions in terms of how these mainstream solutions can be presented in a way that answers the public's questions and, ideally, prompts some action in the face of societal problems and social injustices (Rani, 2016; Rice, 2021). Past literature has underlined how solutions journalism could be expedient to eliminate the negativity bias in mainstream news and stimulate news engagement (Wenzel et al., 2016; Curry et al., 2016; Wenzel et al., 2018). Research shows that, across all demographics, audiences find solution narratives more captivating, trustworthy, and informative, progressing their understanding and subsequently fostering their willingness to engage in civic life (Rani, 2016; McIntyre, 2019; Lough & McIntyre, 2021b).

Overall, solutions journalism was embraced to report global responses to societal problems covering a wide array of topics ranging from climate change to public health, racial equality, advancing democracy, economic mobility, and more (Solutions Journalism Network, n.d.a). In the context of environmental issues, climate change and global warming have been considered among the most significant and pervasive threats of our time. Physical and health risks from human-induced climate change are heating up, alerting an urgent need to harness climate mitigation and adaptation efforts (United Nations Climate Change, n.d.). To tackle the climate crisis, journalism has been deemed crucial in informing, educating, and fostering public understanding of climate change (Nisbet, 2019). However, interestingly, research shows that traditional climate change journalism fails to empower readers or drive their support for climate action (Hackett et al., 2017). Due to the heavy nature of the issue, climate change news tends to be massively negative. Too much negative information can cause severe psychological impacts and spur news avoidance (Theodora & Prestianta, 2022). With the potential of solutions journalism to engage news consumers and transport upbeat environmental stories,

solutions-focused stories arose to offer novel narratives for journalism practice and provide opportunities to communicate complex events on climate change (Thier, 2022). Along these lines, solutions-focused climate change reporting presents a juncture for introspection. Focus on the positive while not ignoring the negative when reporting on climate change; a solution approach could help expand climate coverage by changing the traditional depressing narrative around the climate change discourse and sharing the stories of effective climate responses to mitigate its effects (Thier & Lin, 2022; Thier, 2022). Solutions journalism has been proposed as a crucial tool for balanced reporting, incorporating effective responses and ameliorating the public perceptions of climate change (Thier & Lin, 2022; Thier, 2022).

Despite the academia's growing interest in solutions journalism, there is not an abundance of literature available in the Global South countries' context, namely the Middle East and North Africa. This aligns with past research findings that found a concentration of solutions journalism research in North America and Europe, lacking research in Asia and Africa (McIntyre & Lough, 2021). Accordingly, this study aims to fill the void of academic research in this area while giving a first-hand account of exploring solutions journalism within the context of climate change reporting and expanding global understanding of the current local practices of solutions journalism. This analysis set out to review climate change stories critically and compare how solutions journalism is applied in different countries. The study focuses on two case studies, Egypt and the UAE, driven by their vulnerability to climate change and pivotal roles in global climate discussions as hosts of COP27 and COP28. Despite the Arab region's vulnerability to climate impacts, adopting effective mitigation and adaptation responses has been sluggish. Hampered by editorial constraints and semi-authoritarian settings, climate journalism often struggles for public attention and prioritization in the local news agenda (Shafi, 2020).

Building on the tenets of framing theory and the literature of solutions journalism, this mixed-methods study utilizes content analysis of news stories from news media in the Middle East and North Africa, focusing on climate change. Content analysis is one of the most popular methods used in climate change research to investigate various media portrayals of climate change and analyze the visual and textual content (Metag, 2016). The content analysis could serve as a useful tool to explore how journalism reports climate change through a solution lens. In addition to content analysis, this study engages in qualitative, in-depth interviews with solutions and science journalists in the MENA region to explore journalists' insights and perceived challenges in reporting climate change and solution stories. This study is interested in exploring how local journalists frame the issue of climate change and how news media can potentially work to foster public engagement.

Chapter Two: Literature Review

The Negative Nature of Modern News

Journalists and the negative news are entwined in a vicious circle. News stories are predominantly filled with war, corruption, terrorism, severe crises, incompetence, oppression, and other conflict-oriented themes. Negativity bias focuses on negative news and events, such as social conflict, crisis, and tragedy, as well as a predominantly negative tone in the news coverage (Lengauer et al., 2012). It has long been hypothesized that news media tend to normalize conflict as part of their journalistic routine since they view it as commonplace, expected, and possibly even necessary (Niven, 2001; Vliegenhart et al., 2011). This prioritization of negative news might stem from journalism's normative roles and values, obliging journalists to underline societal problems (Trussler & Soroka, 2014). Conflict-laden news is often associated with the surveillance role of journalism as a “watchdog,” which entails disclosing threats as a core purpose of media and press (Lasswell, 1948). This "watchdog" role, which entails keeping political leaders in check and shining a light on corruption, misbehavior, abuses of power, and other concerns, could explain why conflict is inevitable in news coverage. Watchdog journalism, mostly conflict-based coverage, has been deemed vital to protect the transparency of the democratic process (Seaton, 2005; Bennett & Serrin, 2005; Entman, 2005). Moreover, news consumers could be more attentive to conflict stories driven by this news negativity bias (Bachleda et al., 2020; Trussler & Soroka, 2014).

Although journalism's surveillance and watchdog roles are massively important, scholars have documented the adverse effects of these often taken-for-granted problem-focused news practices. There is ample research proposing that widespread negativity in news stories may cause more people to avoid the news, reducing the media's capacity to inform the public (Skovsgaard & Andersen, 2020). A large-scale Reuters Institute report has revealed earlier

evidence on how people across 40 countries tune out the news. The report discerns two main reasons for news avoidance: (1) News hurts people's mood (58%); (2) News makes readers less likely to change events and cannot do anything about it (40%) (Newman et al. 2019). Similarly, a report by the Pew Research Center State of the Media has revealed a sharp decline in the number of views for several US-based media outlets over the past decade. Shrinking audiences has been explained by the negative nature of news that forces audiences to tune out (Pew Research Center, 2021). Mounting evidence now suggests the adverse psychological effects of conflict-driven journalism on readers' well-being and mental health (Bendau et al., 2020; Szabo & Hopkinson, 2007). Meanwhile, Baden et al. (2019) elucidated how news negativity elicits negative affect and scales down intentions to take positive action on societal issues. The negative news is also associated with diminished trust in political leaders and evokes a consequent "sleeper effect" on people's political participation and voting behaviors (Kleinnijenhuis et al., 2006). Further evidence is that mainstream conflict-laden news fails to present whether policies are efficient and working (Schudson, 2011). Conflict-based coverage is also said to intensify a gamut of negative emotions and compassion fatigue (i.e., emotional or physical burnout affecting people's capacity to react or support others) (McIntyre, 2019). This could trigger detachment between journalism and readers, thus hurting societal knowledge and public awareness (McIntyre, 2019). Kinnick et al. (1996) recognized several elements affecting compassion fatigue, specifically news lacking solutions to social problems.

In response to this news fatigue caused by traditional problem-oriented journalism, growing evidence demonstrates that journalism needs to ameliorate and rethink its practices to correspond to readers' needs and expectations (Waisbord, 2013). Zahay et al. (2021) articulated that journalists must inaugurate participatory and engaging journalism models to rebuild public

trust and bridge the gap between communities and journalists. Merely flagging a problem does not adequately fulfill the journalistic role in a democracy. Correspondingly, Curry and Hammonds (2014) argued that newsrooms should go beyond just pointing out problems to investigate effective responses, demonstrating the potential to alleviate problems. More professional efforts are invested in evidence-based news coverage to examine responses to social issues and give readers a comprehensive overview of global events (Curry et al., 2016; Curry & Hammonds, 2014). This corresponds with the literature review that revealed several insights into journalists' perceptions of quality news and their shift to embrace constructive genres of journalism, such as service and solutions journalism (Jenkins & Nielsen, 2020). Solutions journalism expands on the traditional approaches of journalism to accentuate responses to entrenched societal issues and the problems themselves in a “critical and clear-eyed way” (Solutions Journalism Network, n.d.a; Curry et al., 2016). Solution-oriented approaches were proposed to curb the unwelcome effects of negative news, including public apathy and fatigue brought about by a predominantly negative news diet (McIntyre, 2019). In the early stage of research on solutions journalism, a positive audience reaction was documented (Curry et al., 2016; Curry & Hammonds, 2014). It should be noted, however, that solutions journalism does not imply disregarding negative information to please readers; instead, it requires journalists not to “sensationalize conflict or overly catastrophize negative information.” (Baden et al., 2019, p. 17).

Conceptualizing Solutions Journalism: Definition and Practice

With the professional uptick of solutions journalism, practitioners and academics have been trying to draw a clear definition of this emerging practice. Even though solutions journalism studies have ballooned recently, McIntyre et al. (2018) findings have underlined some

inconsistencies in the definitions among journalists and media practitioners who might be unfamiliar with the term "solutions journalism" even if they unintentionally encompass solution material in their reporting.

Overall, Solutions Journalism Network (SJN) has led some of the early attempts to define the practice by describing solutions journalism as “a rigorous, compelling, and evidence-based mode of reporting on the responses to social problems.” (Solutions Journalism Network, n.d.a, para. 2). For each story, SJN identifies four pillars for solutions reporting: responding to a social problem and evaluating that solution; offering insight surrounding responses relevance and accessibility to others; using evidence-based data to back up their claims; and reporting on limitations of responses (Solutions Journalism Network, n.d.a).

This corresponds with the literature review that underscored SJN's definition and expanded on it. Loizzo et al. (2018) borrowed language from the SJN, outlining solutions journalism as “journalism focused on reporting solutions-based stories encouraging readers and viewers to engage in making positive change” (p. 394). This definition resembles the early imagination of Thier (2016), who explained that solutions journalism expands on the critical practices of traditional journalism while presenting comprehensive explorations of why and how solutions work. Thier elaborated, “Solutions journalism reframes traditional journalistic approaches to reporting on social problems as it seeks to engage readers, offer a blueprint for change, and alter the tone of public discourse.” (p. 2). In the same vein, Powers and Curry (2019) revealed how solutions journalism is conceptualized in SJN's materials and public comments from the SJN's founders and top representatives in their textual analysis. Solutions journalism is simply “reporting on how a community is responding” and not “journalists proposing a solution” (p. 10). Solutions journalism aims to inform decision-making and establish

a story “in the context of policy decisions or interventions that could improve the situation” (p. 10).

It should be noted, however, that scholars have argued that solutions journalism is an ever-evolving concept, and media organizations are adapting their interpretations of it. Recent research has reiterated this sentiment and offered insights into how some practicing journalists deviate from the SJN's definitions, mainly those related to the strict adherence to the traditional journalistic norms of objectivity. Usery (2022) argued that many working journalists find the SJN definition very narrow for what their organizations stand for. One of the study's interviewees elaborated: “The longer we talk about solutions journalism, the more we are separated from the Solutions Journalism Network running it. It is becoming more of an adopted term, and it is not just under their umbrella.” (p. 10). Journalists argue that solutions journalism is identified by its intent to drive change and improve society, which could overlap with the ideals of advocacy (McIntyre & Lough, 2021). Similarly, Powers and Curry (2019) suggested discrepancies among journalists' perceptions of solutions journalism, specifically whether it entails promoting “proven fixes to problems” (i.e., effective solutions worked) or if solutions journalism is about “attempting to solve problems” while acknowledging the limitations of potential solutions (p.10).

In essence, the discussion above reveals several shared themes among practicing journalists. Solutions-oriented narratives involve a thorough problem analysis, delving into their underlying causes. This involves rigorous coverage backed by evidence of the proposed solutions' effective implementation and limitations of proposed solutions (Bansal & Martin, 2015). Moreover, solutions journalism aims to offer a comprehensive overview of social

problems and the corresponding responses to generate insights for those dealing with similar issues.

How Solutions Journalism Intersects with Other Journalism Genres

In their efforts to describe solutions journalism, scholars have linked the approach to other genres of journalism. One of the early academic attempts to define solutions journalism was part of McIntyre's dissertation (2015), which examined solutions journalism under the overarching umbrella of constructive journalism. Constructive journalism is “an emerging form of journalism that involves applying positive psychology techniques to news work in an effort to create more productive, engaging stories while holding true to journalism’s core functions.” (p. 24). Accordingly, a scholarly approach to gauging the constructive nature of a story would entail incorporating theory-based positive psychology techniques (McIntyre, 2015). As such, it is essential to note that many practitioners and academics consider solutions and constructive journalism interchangeable. McIntyre and Gyldensted (2018) identified solutions journalism as one of the four branches of constructive journalism that applies positive psychology techniques, including solutions journalism, prospective journalism, peace journalism, and restorative narrative. Interestingly, McIntyre and Lough (2021) pointed out how constructive and solutions journalism concepts are used interchangeably in different countries, as the latter seems more used by U.S. authors. In contrast, authors outside the United States tend to use the “constructive journalism” term. Scholars argued that both genres place problem-solving efforts on the journalistic agenda while simultaneously adhering to journalism's fundamental norms and values (Aitamurto & Varma, 2018). As such, Seán Dagan Wood, editor of the world’s first positive newspaper, Positive News for constructive journalism, elaborated, “There is an emerging field of what has been called constructive journalism or solutions journalism, and this is about bringing

positive elements into conventional reporting, remaining dedicated to accuracy, truth, balance when necessary, and criticism, but reporting in a more engaging and empowering way” (TEDx Talks, 2014).

Still, however, McIntyre (2015) offered a distinction between the two concepts. She elucidated, “A news story that mentions a solution to a social problem can be considered constructive; however, including a solution is just one of a handful of positive psychology techniques that can be applied to news to make it constructive. Therefore, “a solution-based news story is constructive, but a constructive news story does not require the inclusion of a solution” (McIntyre, 2015, p. 16). Overgaard (2021) has reiterated this assertion, saying that all solutions journalism is constructive journalism, but not all constructive journalism is solutions journalism. Although solutions journalism and constructive journalism are solution-focused reporting, Lough and McIntyre (2021) suggested future research to establish separate definitions for the two concepts. Therefore, this study underscores the distinction between the two terms and will not use them interchangeably.

Scholars have also linked and compared solutions journalism to civic journalism based on their shared aim to advance citizen engagement (Loizzo et al., 2017; Wenzel et al., 2018). Civic journalism advocates a bottom-up news reporting approach that prioritizes a citizen's agenda and non-elite sources (Massey, 1998). Civic journalism entails journalists actively promoting citizen engagement in the democratic process. Jan Schaffer (2016), the executive director of J-Lab and a former leader in the civic journalism movement, has identified several "new taxonomies" of emerging journalism forms that sit at the core of engaged journalism practices. These emerging genres include knowledge-based journalism, soft-advocacy journalism, activist journalism, restorative narratives, social journalism, and solutions journalism (Schaffer, 2016). Schaffer

argued that the concept of solutions journalism, in particular, builds upon civic journalism functions. These new models of journalism reflect the convergence of multiple trends, which have the potential to inspire action and promote positive community change and civic engagement (Wenzel et al., 2016).

Solutions journalism also builds on some of the concepts developed in advocacy journalism as they strive to work toward a common goal of catalyzing social movements and change. Reporting with a point of view, advocacy journalism has facilitated opportunities for social movements and marginalized groups to disseminate information, influence public opinion, and garner backing for specific political or social issues (Hunter, 2015). Nonetheless, this link between solutions journalism and advocacy journalism has been a point of contention between journalists and SJN as the network conforms to the so-called objective journalism and recommends that journalists stray away from advocacy (Powers & Curry, 2019; Aitamurto & Varma, 2018). David Bornstein, the SJN co-founder, warned, “Journalists also have to be especially mindful to avoid reporting that could be construed as advocacy. There is already enough unadulterated opinion, even propaganda that passes for news today” (Bornstein, 2011, par. 7). In another interview, Bornstein tried to draw boundaries between solutions journalism and advocacy saying that the former presents a rigor of objective reporting that scrutinizes existing effective responses to societal issues. Its sole objective is to inform the audience about potential remedies and not to advocate for specific ideas or endorse superior models for addressing such problems (Rosenstiel, 2014). Another SJN member elaborated that advocating for a particular solution could deviate from the normative journalistic values to report objectively (Powers & Curry, 2019). In another study, solutions journalists noted that they avoid being swayed by any political or personal interests while covering solutions stories to differentiate

themselves from advocacy journalists (McIntyre et al., 2018). Accordingly, proponents of solutions journalism contend that it has the potential to spur readers into action on specific matters while simultaneously upholding the traditional values of journalistic objectivity (McIntyre et al., 2018). It should be noted, however, that even though journalists agreed that solution stories do not expressly advocate for those who lack power, McIntyre and Lough (2021) articulated that solutions journalism could overlap with the “contemporary civil model” of advocacy journalism that advocates for raising awareness, giving a voice to the voiceless and encouraging policy changes on social issues.

Along the same lines, scholars have highlighted the similarities between solutions journalism and peace journalism. Peace journalism has introduced novel approaches to conflict reporting that prioritize reconciliation and peace-orientated coverage in contrast to war journalism and victory/loss framing (Galtung, 2003; Aitamurto & Varma, 2018). Subsequently, solutions journalism has been likened to peace journalism since both genres challenge the conventional notion of conflict as a primary news value (Midberry & Dahmen, 2017; Wenzel et al., 2017; Thier, 2016). Similarly, Wenzel et al. (2018) have drawn parallels between solutions journalism and investigative reporting, as they share rigorous reporting mechanics of delving into the problem and evaluating proposed responses' effectiveness, strengths, and limitations. Solutions journalism tends to be conflated with citizen journalism because of their emphasis on the power of people and citizen-oriented approaches to spotlight social problems and effective responses (Wenzel et al., 2018; Loizzo et al., 2017; Midberry & Dahmen, 2017).

Seemingly, other alternative genres of journalism exist, sharing the similar goal of advancing society, thereby necessitating a more active role for journalists in reporting the story, albeit with distinct approaches and techniques (Aitamurto & Varma, 2018; McIntyre, 2015). This

convergence of solutions journalism and other similar forms could be understandable and plausible. As Christians et al. (2009) have argued, journalism cannot be easily categorized into one normative classification as it could overlap with other forms of journalism.

Nonetheless, defining and distinguishing these categories can be conceptually beneficial in comprehending each form's unique features and objectives. Solutions journalism aims to set itself apart from other genres of journalism to posit its commitment to critical reporting while pursuing the underlying goals of social development (Aitamurto & Varma, 2018). Ultimately, Benesch (1998) earlier argued that solution stories are put forward as a unique journalism model. She elaborated that solutions journalism is a valuable new genre emerging. It consists of an honest reckoning of the problem and solutions that are largely, but not altogether, positive. It distances itself from soft news or civic journalism, which entails journalists taking a more active role in the community. As solutions journalism continues to evolve, it is essential to establish clear definitions and guidelines to ensure its effectiveness and credibility.

Unpacking the Limitations: Criticism of Solutions Journalism

The central notion of journalistic objectivity is that journalists are supposed to be detached observers and neutral reporters of fact. From this, the questions on journalists and their values often come to mind, particularly regarding the potential bias of solutions stories in abolishing journalistic objectivity. Dan Gillmor, a journalism professor at Arizona State University, reflected on how solutions journalism may comprise the ideals of objectivity when reporting the story to prove that this particular solution is effective and valid (Dyer, 2015). It is worthwhile to reiterate the fact that the relationship between objectivity and journalism seems to be more of a continuum than a dichotomy. Even though objectivity remains a professional journalistic norm, media sociologists would contend that objectivity in its purest form is

unattainable because journalists do not just cover the news; they make it (Tuchman, 1978). Journalists are part of society and, therefore, unable to rid themselves of their own interpretations, perceptions, and biases that, in part, affect their coverage of news events (Molotch & Lester, 1974). This echoes the call by Cathrine Gyldensted, a Danish journalist and cofounder of Constructive Journalism Network, who stated in reference to solutions journalists, “Stop being blind: we are not mirroring the world, we are moving the world.” (“Is constructive journalism,” 2016, para. 6). In the same vein, media scholar Ethan Zuckerman said that solutions journalism “purposefully motivating readers to act on the issues raised in stories is perfectly respectable, indeed, necessary” (Dyer, 2015, para. 16). Particularly noteworthy is Aitamurto & Varma (2018) revealed some cracks in the strict adherence to objectivity among solutions journalists who posit that solutions journalism constitutes a hopeful way forward for a more comprehensive and inclusive portrayal of the world while maintaining fidelity to journalistic principles of objectivity and accuracy. Lough and McIntyre (2018) argued that this viewpoint does not undermine the legitimacy of journalists but rather recognizes objectivity as an ideal to aspire to, provided that journalists are aware of their own limitations.

Another issue of particular concern is that solutions journalism turns into boosterism and cheerleading reporting. Journalists raised alarms over positive pieces as they are often written quickly and poorly executed (Benesch, 1998). Nonetheless, Benesch has aptly elucidated that there is a fine line between positive journalism and solutions journalism, as the latter is built on real, high-quality solutions and is worthwhile precisely as it promises no magic bullets. Similarly, Davies (1999) rebutted critiques that solutions journalism constitutes “good news” journalism or “happy-ending” stories. Instead, solutions journalism recognizes the importance of negative aspects in the news while investigating the underlying factors contributing to particular

programs' success, thereby enabling their replication. Moreover, McIntyre (2015) pointed out that positive news stories are not akin to solutions journalism as they lack substantial societal impact on a larger scale.

This argument, of course, is consistent with the general guidelines of SJN that recognize several stories as “imposters,” namely, hero worship (i.e., stories excessively praise an individual), think tank (i.e., stories explore solutions that do not yet exist) or Chris P. Bacon stories “sentimental stories of good people doing cute things.” (Solutions Journalism, 2016). Along the same lines, SJN founders have formerly articulated how journalists tend to erroneously believe that “news” actually means “bad news” and that reporting on solutions is akin to engaging in public relations (Bornstein & Rosenberg, 2021). Bornstein further elaborated, “The news can be so overwhelming. More and more people are avoiding it. We need to balance news about problems and possibilities so people can engage with reality with some sense of agency. Otherwise, they tune out, deny it, or fall prey to misinformation” (para. 15).

Solutions journalism proponents also underlined that solutions stories do not contradict the core ethical codes of journalism established by the Society of Professional Journalism (SPJ). Grayson (2021) argued that solutions journalism functions within the existing principles of the SPJ Code of Ethics, which entails four main tenets: seeking truth and reporting it, minimizing harm, acting independently, and finally, being accountable and transparent (SPJ, 2014). Any journalistic piece failing to adhere to these principles would hardly be considered journalism.

Arguably, not including solutions in journalistic coverage is unethical. According to Solutions Journalism Toolkit (n.d.), “The old thinking: we might compromise our professionalism by covering solutions. The new thinking: We compromise our professionalism by not covering solutions. As journalists, our job is to hold up an accurate mirror to society. If we

only cover the systemic problems in schools, for instance, and ignore the models working to improve education, we are not telling the whole story.” (para. 5).

In sum, while the concept of journalistic objectivity remains a professional norm, solutions journalism offers a way forward for a more comprehensive and inclusive portrayal of the news while maintaining fidelity to journalistic principles of objectivity and accuracy. Adhering to the ethical codes of journalism and covering solutions is crucial in presenting a holistic view of societal issues.

The Effects of Including Solution Information in News Stories

In many parts of the world, more news media are now regularly espousing an evidence-based approach to report effective responses to crucial social problems. Early research on solutions journalism has examined its effects in and outside the laboratory settings and found solutions journalism to positively impact psychological states, news-related outcomes, and behavioral intentions positively among audiences (Curry & Hammonds, 2014; Curry et al., 2016). Media organizations that prioritize solution-oriented reporting have also reported anecdotal successes.

Psychological Effects of Solutions Journalism: Affect and Self-efficacy

Past studies have proposed that incorporating an effective solution to a social problem into news articles could elicit less negative affect (e.g., nervousness, fear, upset, sadness) and a more positive feeling (e.g., hope, happiness, and excitement). Past literature revealed that respondents who read solution-oriented approaches experienced more positive emotions and reported higher levels of interest and optimism (McIntyre, 2019; McIntyre & Sobel, 2017; Curry & Hammonds, 2014).

Regarding solutions journalism's influence in enhancing audience self-efficacy (i.e., believing in one's own abilities to perform a given task or achieve a specific goal effectively), studies have generated mixed findings. McIntyre (2015) found that solution stories did not have any significant effect on the level of self-efficacy among interviewees when it came to addressing social issues on their own. Conversely, Minjie (2021), Curry et al. (2016), and Curry and Hammonds (2014) found that individuals who read news stories with a solution component were more likely to experience increased self-efficacy. This increase in self-efficacy was reflected in interviewees' belief that they could contribute to addressing the issue at hand. This is consistent with other experimental studies that found that respondents who read solution stories reported greater self-efficacy compared to those who read problem-focused stories, with some reporting an increase in collective efficacy as well (i.e., the group's shared belief in their ability to accomplish a specific task or goal) (McIntyre, 2019; Wenzel et al., 2018; Gielan et al., 2017). Wenzel et al. (2018) found that individuals of marginalized communities who read the solutions-oriented narratives were more inclined to believe in their ability to make a change and help solve problems in their community even though they believed that solutions journalism alone is not enough to combat the prevailing stigma and discrimination. A subsequent study showed that solutions journalism was found to enhance intrapersonal empowerment (i.e., a greater sense of perceived control and self-efficacy), interactional empowerment (i.e., promoting critical awareness), and behavioral empowerment (i.e., encouraging community involvement and coping mechanisms) (Zhao et al., 2022).

News-Related Outcomes: News Engagement, Trust, and Behavioral Intentions

Going beyond examining their psychological effects, solutions stories can also positively affect audience 'engagement' when engagement is defined as the likelihood that readers would

engage in further actions such as sharing the news, seeking more information, reading more articles, or discussing the topic with friends, among others (Thier et al., 2021). It should be noted, however, that research on the impact of solutions journalism on motivating actions has yielded inconsistent results. On the one hand, extant studies have found no significant impact of solutions stories on audience behavioral intentions or actual behaviors (McIntyre, 2019, 2015). McIntyre (2019, 2015) argued that while solutions journalism may help alleviate the adverse effects of conflict news, it may not necessarily lead to action. On the other hand, other studies reported more promising outcomes of solutions journalism on motivating actions. Curry and Hammonds (2014) revealed that audiences exposed to solutions stories were more inclined to share the articles and expressed a stronger intention to engage in efforts to find a solution. A subsequent study by Curry et al. (2016) found that interviewees who browsed solutions-focused stories online had a more extended visit duration on the webpage yet higher bounce and exit rates. Baden et al. (2019) also found that incorporating a solution-focused approach provoked a greater inclination towards engaging in positive behaviors, such as adopting environmentally sustainable practices and taking active steps to improve the world. Similarly, Minjie (2021) revealed how solution information in news stories elicited behavioral intentions to share the story, recommend it, or investigate the issue further, in addition to evoking the purchasing intention. Thier and colleagues (2021) found that individuals who read solutions-focused journalism exhibited greater trust in the stories' fairness, truthfulness, accuracy, and comprehensiveness, subsequently increasing the probability of their continued readership of the same author or news source.

Applying Solutions Journalism: What it can add to climate change reporting

Climate change has traditionally been a natural phenomenon; however, the current alterations occurring on our planet result from human actions known as “anthropogenic climate change” (Riedy, 2016). The emission of greenhouse gases, caused by unsustainable human activities such as burning fossil fuels and deforestation, has resulted in climate change becoming one of the most significant global threats. Climate change has led to over five million deaths per year worldwide, a figure likely to increase in the future (Zhao et al., 2021). Additionally, physical and health risks from climate change are escalating, alerting an urgent need to harness climate mitigation and adaptation efforts (United Nations Climate Change, n.d.). News media are entrusted with the crucial responsibility of disseminating accurate and engaging news stories that raise awareness and educate the public on climate change-amplified hazards and needed actions (Theodora & Prestianta, 2022; Nisbet, 2019; Berglez et al., 2017).

Even though research has widely documented the crucial role of journalism in communicating sustainability and enhancing understanding of environmental challenges, past literature has shown that news media, on many occasions, failed to effectively communicate the climate change policies and inspire people to take an active role in collective and policy-based solutions (Hackett et al., 2017). Driven by the traditional credo of “If it bleeds, it leads” within newsrooms, climate change coverage tends to be overly negative as it underlines the potential risks and acute hazards to various aspects of life (Theodora & Prestianta, 2022; Cook et al., 2019). This grim nature of climate news has led to more audiences intentionally avoiding the news as it negatively impacts their mood and evokes negative emotions, including feelings of loss, sadness, fear, and frustration, as well as the sense of powerlessness to make a change (Theodora & Prestianta, 2022; Cook et al., 2019; Newman et al., 2019). Additionally, research

shows that traditional frames of climate change in terms of fear-inducing threats, episodic framing (i.e., reporting climate change as unconnected events), and limited coverage of potential solutions tend to affect the effectiveness of climate reporting (Nisbet, 2019; Hackett et al., 2017). Nettlefold and Pecl (2022) also suggested that journalism efficacy is hindered by several factors, including the growing online news consumption accompanied by brevity and the proliferation of misinformation. Moreover, scientific complexity and political and cultural conflict influence public engagement, which could outline people's attitudes toward climate issues.

To this end, science communication scholars have underlined the crucial need to incorporate different public engagement measures and reframe the relevance of climate change in a way that resonates with a broad spectrum of audiences and fosters public engagement and understanding of the issue (Nisbet, 2009). In reaction to debates on the role of engaging journalism, solutions journalism has been proposed to improve news engagement and promote resilience regarding climate change (Nisbet, 2019). As discussed at the onset of this research, past studies have well-documented the positive responses from working journalists and audiences to solutions-focused approaches (Zhao et al., 2022; Thier et al., 2021; Baden et al., 2019). In the context of climate change, initial solutions journalism research suggested that employing a solution-oriented framework for climate change reporting could trigger hopeful feelings instead of perpetuating a sense of despair and pessimism (Nassanga et al., 2016). In a recent study, Thier and Lin (2022) articulated the significance of solutions-led approaches in communicating climate change effectively without inducing a sense of hopelessness or diminished motivation to take collective action to mitigate its effects. Even though the findings revealed no impact of solutions journalism on provoking positive feelings in interviewees,

empirical data indicated the role of solutions journalism in increasing feelings of efficacy that acted as a mediator in the relationship between solutions-oriented reporting and support for collective action on climate change adaptation. Furthermore, experimental insights from Curious Climate, an engaged journalism experiment, have revealed the role of audience-led journalism, namely solutions stories in enhancing local news relevance, engaging with broader audiences, and presenting more relevant and trustworthy stories on environmental challenges such as climate change (Nettlefold, & Pecl, 2022). Another recent paper on using metaphors by journalists in discussing positive insights in the light of the COVID-19 pandemic and climate change suggested that "solutions journalism" could provide a means for reporters to address problem-solving measures that intersected between the two crises and the associated risks posed by both the pandemic and environmental crisis (Atanasova, 2022). Overall, negative news is essential to climate change coverage, as studies posited negative emotions' role in emphasizing the issue's significance and provoking change (Cook et al., 2019). Nonetheless, reporting climate change from a solutions lens could effectively address the crisis and transform complex issues into engaging and captivating stories that resonate with news audiences.

Climate Change Coverage in the Global South

So far, it has long been argued that climate change coverage tends to be limited and insufficient in the context of developing regions (Zamith et al., 2012). Climate change research seems to be dominated by North America and Europe, resulting in inadequate coverage in developing and low-income countries. This hypothesis is supported by recent studies examining media coverage of Africa's climate change crisis. For instance, interviews with environmental reporters and editors in Uganda revealed that climate change stories are given low priority in newsrooms as they are perceived as unappealing, stemming from the argument that climate

stories do not sell (Nassanga, 2013). Meanwhile, although media coverage of environmental issues has increased recently, climate change reporting is hampered by the very low climate literacy among working journalists in developing countries (Nassanga et al., 2016; Corner, 2011). This can partly be explained by developing countries struggle with a scarcity of journalistic resources, which results in inadequate reporting on the scientific foundations of climate science and its associated hazards (Nassanga et al., 2016). The situation is exacerbated by heavy reliance on foreign news agencies and wire services for climate-related stories, making it difficult for journalists to obtain firsthand information (Nassanga et al., 2016). Furthermore, insufficient institutional and political investment in science reporting can also contribute to the need for more media coverage of climate change. For instance, research in Bangladesh has posited that local coverage of climate change is often prompted by political events like the COP summits, which involve the participation of top political figures. However, the media often overlook other climate events that set the stage for similar summits, like the release of IPCC reports (Rhaman, 2010). On a final note, in some developing nations such as Egypt and Ethiopia, Nassanga et al. (2016) argued that the issue of severe poverty often takes precedence over the climate change crisis as journalism is primarily focused on addressing citizens' fundamental needs. This prioritization is further exacerbated by the interplay between political sensitivities and editorial priorities surrounding climate change.

Regarding the Middle East and the Arab world, the region is highly heterogeneous and characterized by varied natural resources, industrial production, ecological footprints, and divergent political and economic settings (Abdelmalak, 2022). The region covers significant oil and gas producers such as the Gulf States, which have high-growth economies and countries marred by poverty and conflict, as seen in Iraq, the Levant, and Yemen (Abdelmalak, 2022).

Despite the region's overall social-ecological vulnerability to climate change, it is exacerbated by significant slow-acting adaptation and mitigation measures to climate change.

As a conflict-laden region, this has relegated the prioritization of climate change in the public discourse and news coverage across different local media outlets. Additionally, most local media operate with semi-authoritarian systems, resulting in extensive editorial restrictions (Shafi, 2020; Eskjær, 2017). Accordingly, local climate coverage is scant, and journalists predominantly rely on content from international news agencies for their climate coverage to avoid political sensitivities. This reliance, often driven by the inclination to avoid political sensitivities, makes climate reporting far less attuned to local readers (Eskjær, 2017). This is consistent with Dunwoody's (2014) findings that revealed that science journalists in the Global South usually adhere to translated and information-based climate content that lacks critical analysis.

So, what can be concluded from the above discussion is that media coverage of climate change in developing regions has been insufficient due to a myriad of factors that hinder the efficacy of climate change communication. Empirical evidence suggests incorporating solutions-oriented information into climate change coverage can generate greater audience engagement and more favorable outcomes regarding audience interest, self-efficacy, and behavioral intentions. Accordingly, based on the above literature, this mixed-methods study aims to achieve the following objectives: (1) explore the prominent themes in the coverage of climate change in news media across Egypt and the UAE, (2) investigate the extent to which stories in the local news media incorporated solutions journalism approaches in the coverage of climate change, (3) assess the practices of solutions journalism among local solutions and environmental journalists, and (4) identify the challenges journalists encountered in covering stories of the climate change from a solutions journalism lens. By providing insight into the current practices

of solutions journalism in climate change reporting, we hope the results from this study could offer quantitative and qualitative contributions to explore frame construction analysis of climate change critically, compare how solutions journalism is applied in different countries as well as contribute to a better-informed and more effective approach to climate change reporting in the future.

Chapter Three: Theoretical Framework

The present study employs framing and social responsibility theories to analyze and scrutinize climate journalism narratives, practices, and solutions journalism's incorporation within local media in Egypt and the UAE.

The Theory of Framing

Journalists not only report news but also actively shape public perception through framing. Framing theory provides a conceptual lens for understanding solutions journalism and climate reporting. The notion of framing is traced back to the formal work of anthropologist Erving Goffman in 1974 on interpretive schemas as an attempt to understand how people interpret and make meanings of the world. Goffman, in his book "Frame Analysis," introduced the concept of frames, describing them as "schemata of interpretation" that enable individuals to "locate, perceive, identify, and label" issues and topics within their contextual framework (Goffman, 1974, p. 21). In this regard, Goffman (1974) saw frames as "primary frameworks" that encompass natural and social systems, influencing how individuals process and assess information through their existing cultural beliefs, values, and worldviews.

Robert M. Entman's (1993) definition stands out as one of the most widely cited framing definitions. According to Entman, framing involves the acts of selection and salience,

"To frame is to select some aspects of a perceived reality and make them more salient in a communicating text in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and treatment recommendation for the item described." (p. 52).

The framing theory revolves around the cognitive process of selecting news items and narratives and presenting them in the news media (Guzman, 2015). The theory suggests that

news stories emphasize particular aspects, values, elements, and facts to steer the audience toward specific conclusions and judgments (Entman, 2007; Weaver, 2007).

Grounded in the sociological and psychological foundations of framing, there have been two major approaches to investigating the framing effects in communication research, where framing is studied as a dependent or independent variable (Goffman, 1974). First, framing as a dependent variable (i.e., frame building) explains factors influencing media framing and how media practitioners endorse various frames. Different determinants could influence the media framing of stories, including interest groups, elites, official authorities, policymakers, cultural and social norms, internal organizational restrictions, journalists' ideologies, etc. (Scheufele, 1999). Second, framing as an independent variable (i.e., frame setting) explores the applicability, psychological, or other effects of media framing on audiences (Scheufele, 1999). Media scholars have argued how different frames of stories could significantly transform how audiences interpret and react to news information (Entman, 2004; Entman, 1993; Iyengar, 1987).

Framing Climate Change

Due to its inherent complexity and perceived uncertainty, communicating climate change has been deemed a significant challenge (Nisbet, 2009). Research has shown that media framing of climate change significantly shapes public perceptions and understanding. However, this has not necessarily translated into increased public engagement, as journalism has inadequately communicated the climate crisis through intensifying political divisions, inflating economic aspects, overreliance on elite and government sources, and dismissing scientific experts, among others (Seelig et al., 2022; Feldman & Hart, 2018a; Ford & King, 2015; Olausson & Berglez, 2014).

Past literature has indicated that the news media consistently emphasize climate change threats and challenges, yet they often neglect the repercussions of inaction and rarely provide information on potential solutions or strategies for addressing climate change (Olausson & Berglez, 2014; Schäfer & Schlichting, 2014). More specifically, recurring climate themes prioritize climate change's causes and effects, highlighting political conflict, health, economics, and humanitarian impacts (Feldman & Hart, 2018a; Nisbet, 2009). Nevertheless, these frames have overlooked substantial environmental reform and possible climate solutions that individuals, businesses, and governments can adopt to mitigate further repercussions (McIntyre, 2019; Painter et al., 2019; Ford & King, 2015).

Past studies indicated a particularly noteworthy deficiency in news coverage that tends to predominantly stress individual environmentally friendly actions such as recycling, green driving, and energy conservation (Feldman & Hart, 2018b). Nonetheless, this approach was deemed ineffective in inspiring individuals to act, as it solely burdens individuals and neglects businesses and governments' crucial responsibilities (Schäfer et al., 2017; Stoddart et al., 2016; Hart, 2011).

In the broader context of media representation, climate change is typically framed either episodically or thematically. Episodic framing portrays climate change as a series of isolated events, while thematic framing contextualizes it within a broader abstract narrative, providing a comprehensive overview (Hart, 2011; Iyengar, 1990). Compared to episodic frames, the thematic framing of climate change increased the attribution of responsibility to the state, consequently fostering public support for climate mitigation policies (Hart, 2011).

Emphasizing robust responses to societal challenges and providing insights into the applicability and replications of solutions, solutions journalism inherently corresponds to a

thematic framing (Thier, 2021). As such, solutions journalism bolsters the attribution of responsibility to social actors and cultivates support for collective actions. It should be noted, however, that research argued that employing an overly positive frame when reporting on a tragedy would distort the true representation of climate information (Rice, G., 2021).

As this study delves into solutions journalism and climate reporting in Egypt and the UAE, the framing theory will be pivotal in guiding the current study and providing a comprehensive lens to identify and analyze the profound themes. By leveraging the climate change framing literature, this study aims to contribute significantly to the academic discourse, offering nuanced perspectives on the dynamics of journalism framing in shaping climate change and climate actions.

Social Responsibility Theory

Solutions journalism has been extensively examined within the framework of the social responsibility theory, providing a lens to comprehend journalism's evolving responsibilities in informing the public and serving societal interests (Thier & Namkoong, 2023; McIntyre & Lough, 2021; McIntyre et al., 2018). The roots of the social responsibility theory can be traced back to the Hutchins Commission (1947), which assessed the purpose of journalism and asserted journalists' moral duty to prioritize the best interests of society in their editorial decisions. The Hutchins Commission played a pivotal role in shaping the Four Theories of the Press by Siebert et al. (1956), including the social responsibility theory. Although the Hutchins Commission was initially centered on the American media landscape, its framework has been considerably applied in diverse global settings (Rao & Weerasinghe, 2011; Hossain & Jaehnig, 2011).

According to Siebert et al. (1956), social responsibility theory has a core premise,

“Freedom carries concomitant obligations, and the press, which enjoys a privileged position under our government, is obliged to be responsible to society for carrying out certain essential functions of mass communication in contemporary society” (p.74).

In doing so, they identified six main functions of the press: providing information and promoting public discussion to support the political system, educating the public to empower effective self-governance, functioning as watchdogs over the government, supporting the economic system, primarily through advertising, entertaining and finally, preserving financial independence to resist external pressures (Siebert et al., 1956). Nevertheless, social responsibility theory indicates discontent with how media owners and operators interpret and implement these functions, contending that the press has not sufficiently fulfilled its roles.

Meanwhile, solutions journalism, emerging as a contemporary approach, seeks to rectify the media's traditional emphasis on problems and conflict. Its key premise to engage audiences and catalyze action resonates with the tenets of social responsibility theory, acknowledging its profound obligation for journalists to contemplate the societal dimensions and impacts of their reporting (McIntyre & Lough, 2021; Lough & McIntyre, 2018). Moreover, scholars proposed that solutions journalism represents a novel normative role, infused with a pro-social orientation, aligning with the social responsibility of the press (Thier & Namkoong, 2023; Baden et al., 2019). More specifically, solutions journalism aims to mitigate the adverse societal ramifications of the negative nature of news and consider their audience's preferences and needs (Thier & Namkoong, 2023; Baden et al., 2019). Scholars also argued that journalism should be a constructive tool to promote the common good and encourage citizens to engage actively in public affairs (McIntyre & Sobel, 2017). While steadfastly adhering to human dignity,

truthfulness, and professional competence, solutions journalism pushes journalists to act as a constructive compass that promotes the common good and urges citizens to actively participate in public affairs (McIntyre & Sobel, 2017). Accordingly, this theory is suitable for this study as it investigates journalism's normative roles and responsibilities in informing the public and upholding democratic values, ensuring a balanced and responsible portrayal of news reporting.

Chapter Four: Research Questions

This study endeavors to elucidate various essential research inquiries, all directed at comprehensively examining the practice of solutions-focused climate change reporting within the contexts of Egypt and the UAE while simultaneously discerning its potential implications on the dissemination of climate-related information and the overall engagement with climate issues in Egypt and the UAE.

Based on the above literature review and the theoretical framework of framing and social responsibility, eight research questions are posed by the researcher to explore how climate change is framed by prominent Egyptian and Emirati news websites, in addition to investigating the practices and perceptions of science journalists, who are based in Egypt and the UAE, in reporting on climate change. To this end, the following research questions are proposed:

RQ1: *(a) What are the predominant themes of climate change coverage on Egyptian and Emirati news websites? (b) are there discernible trends in climate change media attention regarding the amount of coverage over time?*

RQ2: *(a) What is the prevalence of climate solutions stories? (b) the frequency of adaptation and mitigation frames; (c) the dominant types of solutions; (d) the primary solution targets; and (e) the location of the response where the solution has been implemented.*

RQ3: *Which efficacy frame is more dominant in the climate solutions stories: (a) self-efficacy, (b) external efficacy, or (c) response efficacy?*

RQ4: *To what extent are the four pillars of solutions journalism applied within solution stories regarding response, evidence, insights, and limitations?*

RQ5: *How has the landscape of climate journalism evolved in Egypt and the UAE in the light of COP27 and COP28, and how do the two nations compare regarding coverage extent and predominant climate themes?*

RQ6: *How do journalists based in Egypt and the UAE approach their climate change reporting from a solutions lens in terms of **a)** perceptions, **b)** motivations, **c)** practices and approaches, and **d)** perceived shortcomings?*

RQ7: *What challenges do journalists in Egypt and the UAE face when reporting on climate change, specifically from a solutions perspective regarding **a)** capacity building, **b)** editorial and organizational structure, and **c)** the political sphere?*

RQ8: *What lessons can be drawn from the experiences and practices of climate change reporting in Egypt and the UAE to inform future climate change reporting efforts in the MENA region and globally?*

Chapter Five: Methodology

This study offers a unique and firsthand perspective on the increasing global recognition of region-specific practices on climate change reporting, with a strong emphasis on solutions-oriented approaches. The study focuses on Egypt and the UAE, the two Arab countries hosting COP27 and COP28 consecutively. By delving into these localized reporting practices, the study aims to shed light on journalism approaches, initiatives, and projects within these two Arab countries, thus contributing to a broader understanding of how journalism can play a crucial role in the global climate action landscape.

Case Studies: (Egypt and the United Arab Emirates)

This study undertakes a comparative analysis, focusing on two distinct case studies: Egypt and the United Arab Emirates (UAE). The decision to focus on Egypt and the UAE is driven by the vulnerability of both countries to climate change impacts in addition to the regional roles these two nations have assumed recently in the global climate change arena by hosting climate summits. Egypt and the UAE, as the hosts of COP27 in 2022 and COP28 in 2023, respectively, stood at the forefront of climate-related discussions, making them focal points for international climate policy and shaping the global climate narrative.

Egypt faces significant vulnerabilities in the context of the climate change crisis. The implications are threefold: First, the rise in sea level directly threatens the Nile Delta and the inhabitants of coastal areas. For instance, by 2030, approximately 45 million Egyptians are anticipated to face significant threats due to rising sea levels. Looking further ahead, by 2060, the population living in Egypt's Low Elevation Coastal Zone (LEZC) (i.e., the land area along the coast ranging from 1 to 20 meters above sea level) is expected to hit 63.5 million (Hamzawy et al., 2023). Second, uncertainties in the Nile's flow and an anticipated decrease in precipitation

could contribute to significant water scarcity (Saleh, 2012). Third, the escalating temperatures are severely impacting the yields of major commodity crops, exacerbated by limited water availability and the surging demand for agriculture (Hamzawy et al., 2023; Saleh, 2012).

Despite being a high-income developing market economy, the UAE is susceptible to the threats of climate change, particularly rising sea levels. This susceptibility extends to critical infrastructures like desalination and power stations and populations living in coastal areas along the Persian Gulf or the Gulf of Oman (World Bank, n.d.). Moreover, the agriculture sector is threatened by climate alterations in temperature and precipitation (World Bank, n.d.). While the UAE's climate responses may be relatively more advanced than Egypt's, both countries grapple with climate challenges.

The consecutive hosting of these significant events underscores the essential role both countries, as representatives of the Global South, could play in driving sustainability and environmental resilience on a global scale. This, in turn, makes them particularly compelling subjects of study for examining the interplay between the media landscape and climate change discourse.

Egyptian Media Landscape Overview

With a population of over 110 million, Egypt is the most populous country in the Middle East. During the past decade, Egypt has experienced a robust economic reform, impacting various state sectors, including the media industry. Despite its low growth rate of gross domestic product (GDP) per capita, Egypt ranks as the third-largest media market in the Arab world, following Saudi Arabia and the UAE (Allam, 2018). Since the 2011 uprising, Egypt's media landscape has been identified as a transitional democracy, considering the significant transformations and changes within the field (Allam, 2018).

Overall, the local media landscape in Egypt operates under tight government control, either owned by the government or directly controlled (Badr, 2021). The government deploys various influences to shape the news agenda, aligning with official political interests (Abdulla, 2014). Both national and private media grapple with intense and diverse challenges (Badr, 2021; Mansour, 2015). Drawing on the press systems framework outlined by Siebert et al. (1956), Allam (2019) and Abdulla (2016) contend that Arab media, namely in Egypt, does not necessarily fall under any of the four systems and distinguishes itself as a transitional system due to the various changes and unsettlement it went through.

In 2016, the Supreme Council for Media Regulations (SCMR) was founded to oversee the Egyptian media landscape. News laws have transformed state-owned media into public media, subject to regulatory oversight. Despite this transition, these outlets continue to rely on government subsidies, potentially undermining editorial independence (Abdulla, 2016; Allam, 2018).

In neo-authoritarian settings like Egypt, the state may refrain from prior restraint. However, it relies on vague and over-broad legislation that restricts journalistic work and criminalizes perceived threats to national security (Colombo, 2018; Becker, 2004). Although the Constitution seemingly guarantees press freedom and pluralism, such regulations inherently constrain these freedoms (Badr, 2020; Allam, 2019). Reporters Without Borders (2023a) ranked Egypt 166 in the World Press Freedom Index 2023, reporting increased media acquisitions, ownership concentration, media bans, and stringent regulations on news website licensing. Media laws ostensibly framed as counterterrorism and anti-misinformation measures have resulted in escalating repression and harassment against journalists (Badr, 2020).

The UAE Media Landscape Overview

In the wake of its liberation from British occupation in 1971, the United Arab Emirates (UAE) witnessed substantial development in its mass media scene. As a high-income developing market economy with the second-largest media market in the Arab world, UAE governmental bodies have closely monitored all the country's media institutions (Saleh, 2023). Along with other local regulator bodies, there are two major federal media regulators, namely the federal-level media regulators, the National Media Office (NMO) and the Media Regulatory Office (MRO), who play pivotal roles in regulating media activities, formulating legislation, and licensing media, developing the media sector, establishing media conduct and ethics, among other responsibilities ("Media Regulation," n.d.).

Rugh (2004) has classified the UAE media system under the Loyalist Press model, a categorization that may extend to other Arab media systems. This classification is derived from the unequivocal support of the UAE's local media toward the government and the substantial constraints on adversarial reporting or robust criticism. Despite the state's official encouragement for journalists to embody the ideals of the Liberal Model, emphasizing truthfulness and transparency, journalists still lack legal frameworks to monitor the government genuinely (Gibbs, 2023). The country's media is explicitly structured to amplify the government's voice, underscoring its commitment to social responsibility through contributing to economic progress and social welfare (Ayish, 2021). In 2023, the UAE recorded a sharp decline in the World Press Freedom Index, ranking 145 out of 180 (Reporters Without Borders RSF, 2022). The UAE enforces strict restrictions on content through Federal Law No. 15 of 1980, covering a range of topics from criticism of the UAE President or ruling family to restrictions on content that may jeopardize national interests or violate public morals ("Media Regulation," n.d.).

Due to the financial difficulties exacerbated by global financial crises and regional conflicts, all UAE news media have introduced digital platforms, incorporating diverse content and multimedia (Ayish, 2021). Notably, news websites are marked by growing levels of audience engagement, as reflected in online analytics tracking user activities. This shift is exemplified by the emergence of fully dedicated online news media tailored to local and regional audiences (Ayish, 2021).

Considering the intricate political, economic, and regulatory dynamics of the media landscapes in Egypt and the UAE, this study aims to examine how these unique sociopolitical factors shape and influence the practices of climate solution journalism. Our focus is mainly directed toward unraveling the challenges and opportunities climate journalists encounter, providing a foundation for further discourse on climate journalism in the Arab sphere.

Climate Journalism in Egypt and the UAE

The roots of modern Egyptian science journalism can be traced back to 1951 when leading newspapers introduced dedicated columns for science journalism (Al-Nimr, 1998). Nevertheless, the field has seen little growth in the last 50 years. Science-related stories rarely get prominence at the forefront of the Egyptian news media; science columns are mostly tucked away on inner pages (El-Awady, 2008). Furthermore, the dearth of resources, minimal editorial emphasis, and a lack of media conviction on the importance of science contribute to scarce science coverage in Egyptian media that heavily relies on translated content from international sources (El-Awady, 2008; Badari, 2000). Local journalists also grapple with budget constraints, resulting in brief news stories with limited original science reporting.

In the UAE, environmental journalism benefits significantly from the state's promotion of sustainability efforts. Dating back to the 1960s, Sheikh Zayed bin Sultan al Nahyan, the

UAE's founding father, prioritized environmental protection, making it an integral part of the national identity (Rahma, 2018). The UAE has actively embraced renewable energy and sustainable development, striving to position itself as a global center for sustainability with ambitious projects such as Masdar City and hosting the International Renewable Energy Agency (IRENA) headquarters (Reinisch, 2010). This solid tendency intensifies editorial priorities that stress climate reporting. However, challenges exist, such as potential interpretations of critical climate coverage as a direct criticism of the royal family, given the royal family's involvement in much of these sustainability efforts (Reinisch, 2010).

Triangulation: Mixed Methods Approach

This paper uses method triangulation to collect the research data. Triangulation refers to the data collection approach in which multiple research methods or data sources are used to develop a comprehensive understanding of phenomena (Carter et al., 2014; Patton, 1999). The researcher employs a mixed-methods approach, utilizing quantitative and qualitative methods to answer the research inquiries best. Robinson and Mendelson (2012) argued that some research questions are more effectively addressed when a combination of positivist and interpretive approaches is employed.

Since the primary goal of this study is to investigate current local practices of climate change coverage and solutions-focused reporting in Egypt and the UAE, it is crucial to examine the local media coverage of climate change. Hence, the study initiates a content analysis of climate change coverage in six prominent Egyptian and Emirati news websites, aiming to dissect the prevailing themes, narratives, and patterns in their reporting.

In line with Mellado & Lagos (2014), content analysis is most suitable for unraveling the "what" aspect concerning the nature of content resulting from journalistic roles. Nevertheless,

content analysis falls short in addressing the “why” question behind creating that specific content and the “how” it was developed – encompassing factors like decision-making, influences, and operational processes (Singer, 2016). To delve into these insights, researchers have found it essential to gather insights directly from journalists, as Singer (2016) highlighted. To this end, the following phase of this research involves a comprehensive exploration through semi-structured interviews with journalists based in Egypt and the UAE. This qualitative approach is instrumental in providing a nuanced understanding of the journalists' firsthand experiences and perspectives, uncovering the factors influencing their reporting decisions. These insights are invaluable in informing the overall understanding of climate change coverage in the region, enhancing the depth of the research findings.

Content Analysis

Content analysis is a fundamental method in communication research to systematically analyze textual and visual media content (Riffe et al., 2014). Content analysis involves the quantitative and qualitative examination of the content to identify patterns, themes, and underlying messages (Neuendorf, 2002). Content analysis is critical in shedding light on various media portrayals and agenda-setting, and it enables the comprehensive study of various communication materials, including news articles, advertisements, online media, and more (Riffe et al., 2014). Therefore, content analysis is considered fit for this study's objective to probe the research questions and develop an objective and systematic exploration of climate change reporting in Egypt and the UAE. The content analysis starts by initially selecting and sampling the content for analysis, developing a coding book to systematically categorize this content, engaging in the coding process, and finally performing the analysis of the selected material (Neuendorf, 2002).

The Data Set

To analyze the climate change coverage in online news across Egypt and the UAE, three news websites were selected from each country, amounting to six outlets. From Egypt, the digital Arabic versions of Youm7 (<https://www.youm7.com/>), Al-Ahram (<https://www.ahram.org.eg/>), and AlMasry AlYoum (<https://www.almasryalyoum.com/>) were selected.

Egypt: Youm7

Youm7 is an Egyptian daily newspaper that started as a weekly publication in October 2008 before transitioning to a daily format in May 2011. As of September 2020, Youm7 is under the ownership of the United Media Services Group, which, in turn, has connections to Egypt's General Intelligence Service (United Media Services, n.d.). Youm7 is Egypt's most frequently visited online newspaper, with approximately 14 million monthly visitors as of September 2023 (Allam, n.d; Similar Web, n.d.). In 2015, it was the second most prominent news website in the MENA region after Al-Jazeera (Statista, 2015). Youm7's significant online presence extends to its Facebook page, which has over 27 million followers by October 2023.

Egypt: Al-Masry Al-Youm

The second news website is Al-Masry Al-Youm, a privately owned Egyptian daily newspaper first published in June 2004. Al-Masry Al-Youm is Egypt's second most popular news website ("Most Visited Newspapers," n.d.). As of October 2023, Al-Masry Al-Youm had 17 million followers on Facebook and 15 million monthly website visitors (Similar Web, N.d.). Since its debut, Al Masry Al Youm has competed with Al Ahram newspaper and achieved similar circulation numbers due to its news agenda that diverged from state-controlled newspapers (Allam, n.d.). Al Masry Al Youm had an average of 60 million monthly website views. Furthermore, the unique number of views for Al Masry Al Youm increased from 900,000 in 2013 to 1.2 million in 2017 (Allam, n.d.).

Egypt: Al-Ahram

Finally, Al-Ahram, founded in August 1875, is a state-owned newspaper and is Egypt's second oldest indigenous print media, following al-Waqa'i`al-Masriya. Al Ahram has long served as the government's official mouthpiece, boasting an extensive history of news dissemination spanning over 148 years. ElGody (2016) identified Al Ahram among the leading Egyptian and Arab newspapers, with a daily circulation of over 200,000 copies, although it is expected that this figure has declined in recent years. Additionally, Al Ahram's online portal, www.ahram.org.eg, launched in 1997, is one of the earliest examples of online news platforms that served as a model for many news outlets (El Gody, 2016). It should be noted, however, that Al Ahram currently faces a relative decline in reach and influence compared to other media outlets. Nevertheless, it has a substantial online presence on Facebook, with 4.6 million followers. Al-Ahram was also one of the first newspapers to introduce a dedicated science and technology department within the Egyptian news media landscape (El-Awady, 2008). The science journalism section provided in-depth and credible reporting in various science areas, including climate change, environmental conservation, emerging technologies, health, and more. These factors underscore Al-Ahram's relevance as a critical element of the research sample, promising valuable insights into climate change media coverage in Egypt.

From the UAE, the digital versions of Al-Khaleej (<https://www.alkhaleej.ae/>), Al-Ain News (<https://al-ain.com/>), and the National (<https://www.thenationalnews.com/>) were selected. Al-Khaleej and Al-Ain are published in Arabic, whereas the National is exclusively in English.

UAE: Al-Khaleej

Al-Khaleej is a daily Arabic-language newspaper established in April 1970 in Sharjah, UAE, making it the country's first daily newspaper (Al-Jaber & Gunter, 2013). The newspaper is privately owned and published by Dar Al Khaleej Printing & Publishing (i.e., the Gulf House). Al-Khaleej is considered one of the top-circulated newspapers in the UAE, with about 114,800 copies per day (Haider, 2016). Since its establishment, Al-Khaleej has served as the nation's voice, predominantly publishing content catered to a diverse audience in the UAE and Arab Gulf region (Al Amir, 2020). Al-Khaleej holds a significant online presence with 2.7 million and 886 thousand followers on Facebook and X, respectively. It is also ranked as one of the most popular news websites in the UAE, with around 1 million monthly website visits, according to Similarweb data (n.d.).

UAE: The National

The National is an English-language daily newspaper based in Abu Dhabi, UAE. It is owned by Sheikh Mansour bin Zayed Al Nahyan, the deputy prime minister of the UAE and a member of the royal family of Abu Dhabi. Since its establishment in April 2008, the National quickly became a key source of news and information in the UAE. The National is known for its international outlook, and it was said to represent a departure from the traditional Emirati media, signaling a shift towards more rigorous and critical reporting (Reinisch, 2010). It recruited a diverse editorial team worldwide, including experienced professionals from prominent international publications. The National has a dedicated “Climate” section presenting articles,

features, and reports on climate change, its impacts, causes, and related actions and policies. Given this editorial emphasis and its established presence, the National could be a noteworthy resource to develop a richer understanding of local climate reporting.

UAE: Al-Ain News

Al-Ain News is a prominent electronic newspaper based in the Emirati capital, Abu Dhabi. Al-Ain News was launched by Sheikh Mohammed bin Rashid Al Maktoum, Vice President and Prime Minister of the UAE and Ruler of Dubai, in November 2015. Al-Ain News covers many topics, including local and international news, politics, culture, sports, and lifestyle. The website is available in Arabic, catering to a primarily Arabic-speaking audience in the region. Regarding its online presence, Al-Ain News ranks significantly among the most popular news websites in the UAE. The exact rank may vary, but it is consistently recognized as a top news source. As of September 2023, Al-Ain News has 4.3 million followers on Facebook and is getting over 3.1 million monthly website visits with 1.7 million unique website visits (Semrush, 2023).

Thus, Al-Ain News emerges as a valuable news source for studying climate change journalism in the UAE due to its online popularity and its recent editorial focus on climate change reporting. This could be underscored by its recent launch of the "Green Space" section, in parallel with COP28, which dedicates its coverage to different areas of climate change reporting and COP28 updates. Accordingly, by delving into the distinct climate narratives and the evolution of coverage, this study can gain valuable insights into the multifaceted landscape of climate journalism in the UAE.

Timeframe:

The dataset for this study was collected from October 1, 2022, to September 30, 2023. The chosen timeframe is strategically linked to the 27th Conference of the Parties (COP27) held from November 6 to November 18, 2022, and the 28th Conference of the Parties (COP28) scheduled for November 30 to December 12, 2023. These international climate events are expected to generate heightened online discourse and local media coverage on climate change. Importantly, it should be noted that this study is not concerned with examining the media framing of the COP events themselves; instead, its primary objective is to scrutinize general climate change reporting. Accordingly, the chosen timeframe aligns with the study's focus on understanding climate journalism's broader context and dynamics of climate journalism. By bridging the gap between COP27 and COP28 and capturing media data over this period, the study can effectively track and analyze the evolving trends and changes in climate change coverage, providing a comprehensive overview of the media narrative.

Sampling

The news articles were gathered from the websites of the six news outlets using one main keyword as a search term for the news articles: (تغير المناخ/ climate change). The three Egyptian news websites offered a fundamental keyword search engine for article retrieval. While this search feature did not include a built-in option to specify a time range, this limitation was overcome by taking advantage of the chronological ordering of articles on these platforms, allowing for the sample to be retrieved. Conversely, the three Emirati news websites had an advanced search engine, allowing search for articles using keywords and specific time ranges. This advanced search functionality streamlined the data collection process for these websites, ensuring a more precise and time-bound sample selection.

For the current data set, constructed week-by-quarter sampling was chosen to analyze the study's timeframe from October 1, 2022, to September 30, 2023. One constructed week (7 days) per quarter was randomly selected to cover each quarter (three months). A constructed week guarantees a representative distribution of each day throughout the week. A constructed week is crucial because specific days of the week often align with particular news categories. Moreover, it ensures that the sample comprehensively represents the entire study timeframe (Kim et al., 2018; Riffe et al., 2014; Riffe et al., 1993).

Stempel (1952) argued that two constructed weeks for a 1-year timeframe of daily newspapers could provide an ample representation of newspaper content. This finding was further supported by Riffe et al. (1993), who also concluded that one constructed week could adequately reflect a six-month daily newspaper content. In this sense, two constructed weeks were deemed enough to represent an entire year of content. The same could be said even for highly volatile variables (Song et al., 2012).

Past research has also concluded that constructed week is more cost-effective, reliable, and unbiased compared to other sampling methods, including simple random and consecutive-day sampling, as constructed week considers the fluctuation in news content over a standard seven-day news week (Kim et al., 2018; Riffe et al., 2014; Luke et al., 2011; Riffe et al., 1993). Early content analysis research used to examine every newspaper issue within the population. However, given the limitations of coding resources, this approach was deemed unfeasible and impractical, which requires reliable sampling approaches.

In the online realm, Hester and Dougall's (2007) study on online news also revealed that constructed week is a reliable sampling and more efficient approach compared to a simple random or consecutive-day sample. Even though past research suggested that one constructed

week would be a reliable estimation of six months of daily print newspaper content, Hester and Dougall (2007) recommended that at least two constructed weeks would be needed for six months to reflect an adequate representation.

Much like Connolly-Ahern et al. (2009) suggested constructing weeks every calendar quarter, i.e., every three months, rather than annually, to achieve a more representative sample. This approach considers systematic content variations over a quarter of the year and content fluctuations related to different days of the week.

In this quest, within the specified timeframe, the calendar quarters are divided as follows: first quarter, October 1 to December 31, 2022 (92 days); Second quarter, 1 January to 31 March 2023 (90 days); Third quarter, April 1 to 30 June 2023 (91 days); and Fourth quarter July 1 to September 30, 2023 (92 days). For each quarter, the procedure started with identifying all Sundays within the sampling frame and randomly selecting one Sunday. This was followed by a similar approach for Mondays, Tuesdays, and so forth, as Lacy et al. (2001) detailed. As a result, four constructed weeks were established over one year. The days were selected randomly using an online random number generator to ensure each date had an equal probability of being chosen (Lough & Ashe, 2021). Additionally, no more than one day from any single week was chosen, and a maximum of two days were selected from each month to ensure the sample's representativeness.

This resulted in a total of (841) news articles being analyzed.

Table (1): The final randomly selected days per quarter

Quarter	Days
Q1: October 1 to December 31, 2022 (92 days)	<ul style="list-style-type: none"> ● Saturday, November 12, 2022 ● Sunday, October 16, 2022 ● Monday, October 3, 2022 ● Tuesday, December 20, 2022

	<ul style="list-style-type: none"> • Wednesday, November 23, 2022 • Thursday, December 29, 2022 • Friday, November 4, 2022
Q2: January 1 – March 31, 2023 (90 days)	<ul style="list-style-type: none"> • Sunday, Jan 22, 2023 • Monday, Jan 2, 2023 • Tuesday, Jan 10, 2023 • Wednesday, March 29, 2023 • Thursday, March 16, 2023 • Friday, February 24, 2023 • Saturday, February 11, 2023
Q3: April 1 – June 30 2023 (91 days)	<ul style="list-style-type: none"> • Sunday, June 4, 2023 • Monday, April 10, 2023 • Tuesday, May 9, 2023 • Wednesday, June 14, 2023 • Thursday, May, 18, 2023 • Friday, April 21, 2023 • Saturday, April 1, 2023
Q4: July 1 – September 30, 2023 (92 days)	<ul style="list-style-type: none"> • Sunday, September 10, 2023 • Monday, July 17, 2023 • Tuesday, September 19, 2023 • Wednesday, August 16, 2023 • Thursday, August 3, 2023 • Friday, July 28, 2023 • Saturday, September 30, 2023

Coding Procedure

This study explores the main themes of climate solutions reporting through quantitative content analysis. News stories from six news outlets in Egypt and the UAE were selected, and the unit of analysis is a textual article. The variables and related categories were developed and adapted using climate change and climate solutions frames established and validated in past research, as detailed below in Table (2). The codebook includes three main coding sections to

analyze specific and relevant information: identifying information, dominant climate change frames, and climate solutions themes.

The coding process started with the identifying information of news articles to collect fundamental data about each news article, including the story link, the news website (Egyptian or Emirati news sources), date of publication, source originality (internal staff or wire services), and relevance to climate-related events such as COP27 or COP28.

Subsequently, the prominent climate change frames and themes were identified, covering a wide array of themes, including human interest, conflict, morality, attribution of responsibility, economic progress, economic consequences, national security, health, public accountability, settled science, disasters or catastrophes, hope, negotiations, food security, uncertainty, and climate justice. When more than one frame could fit into a single story, the most dominant frame, the one allocated the most space, was chosen.

Then, news stories identified as "information-rich in reporting climate solutions" were comprehensively analyzed. The coding delved into the solution-oriented aspects of the articles, including adaptation and mitigation actions. The type of solutions was also examined whether short-term and long-term solutions fall under individual behavior change, individual political action or advocacy, business and technological innovation, or policy or government action. Moreover, the solution target was identified, which encompasses a range of issues such as water, oceans, endangered species and ecosystems, environmental policy, air pollution, energy, plastic, education and training, food, waste, transportation, health, land development, toxic chemicals, sustainability, and global warming. The location of the response was also examined in addition to the efficacy of the information, explicitly examining self-efficacy, external efficacy, and response efficacy. Finally, the codebook scrutinized the solution presentation by assessing whether the

article adheres to the four pillars of solutions journalism: response, evidence, limitations, and insight.

Table (2): Climate Change Frames

Dominant Climate Change Frames		
Frame	Description	Reference
Human interest	Stories focus on human or emotional angles by highlighting the impact of climate change on individuals and communities.	(Dirikx & Gelders, 2010; Semetko& Valkenburg, 2000)
Conflict	Stories reflect the power struggle and disagreement between politicians, individuals, and stakeholder groups in relation to addressing climate change.	(O'Neill et al., 2015; Dirikx & Gelders, 2010; Nisbet, 2009; Semetko& Valkenburg, 2000)
Morality	Stories highlight moral, ethical, or religious calls to take action on climate change and protect the most vulnerable communities.	(O'Neill et al., 2015; Dirikx & Gelders, 2010; Semetko& Valkenburg, 2000)
Attribution of responsibility	Stories suggest that either the government, an individual, or a group bears responsibility for the issue or problem at hand.	(Dirikx & Gelders, 2010; Semetko& Valkenburg, 2000)
Economic progress	Stories advocate economic investment in strengthening or broadening an eco-friendly economy.	(Nisbet, 2009)
Economic Consequences	Stories highlight the prospective economic consequences of climate change and the ways in which it can impact investments, markets, and potential economic measures.	(O'Neill et al., 2015; Dirikx & Gelders, 2010; Semetko& Valkenburg, 2000)

National security	Stories emphasize the potential threats of climate change to national security or displacement of populations.	(Hart & Feldman, 2014)
Disasters or catastrophes	Stories spotlight the anticipated significant risks of climate change to diverse aspects of life, emphasizing disasters like extreme weather events, rising sea levels, and water shortages.	(Painter et al., 2018; O'Neill et al., 2015)
Health	Stories revolve around the health repercussions of climate change like asthma, allergies, and malnutrition, among others.	(Painter et al., 2018; O'Neill et al., 2015)
Food security	Stories emphasize the possible effects of climate change on food availability, particularly for marginalized groups, arising from reduced yields or increased prices.	(Painter et al., 2018)
Public accountability	Stories highlight the accountability of various organizations to the public, probing whether their actions prioritize the public welfare or cater to private interests.	(Nisbet, 2009)
Settled Science	Stories underscore the scientific aspects of climate change, engaging in dialogues with scientists and experts to clarify doubts and uncertainties about climate change.	(O'Neill et al., 2015)
Hope	The primary theme and tone center on optimism and reflect a deep desire for improvement and a belief in the feasibility of positive changes.	(Feldman and Hart, 2016)
Negotiations	Stories feature analysis, descriptions, and interpretations of the negotiation process, exploring whether the outcomes of COP27 and COP28 were successful or not.	(Painter et al., 2018).
Climate justice	Stories revolve around the responsibilities of various countries or stakeholders, addressing the need for equitable distribution concerning mitigation, adaptation, or alleviation of climate impacts.	(Painter et al., 2018)
Governmental and	Media coverage of governmental activities and inter-governmental entities like the United Nations. Stories may include	(Olteanu et al., 2015)

inter-governmental activities	1. Legal actions, legislations, policies, international agreements, executive actions, and police arrests. 2. Publications, studies, and research: such as government-sponsored studies, inter-government reports, and public surveys. 3. Meetings, conferences, IPCC meetings, and other inter-governmental gatherings. 4. Other activities: such as campaigns, statements, and notable government initiatives.	
Groups, NGOs, and universities activities:	Media coverage encompasses: 1. Legal actions by NGOs. 2. Publications, studies, and research: such as NGO-sponsored studies, and reports. 3. Other activities: such as campaigns, statements, and notable initiatives by non-governmental organizations.	(Olteanu et al., 2015)
Solution	Stories offer solutions to the identified problem or issue.	(Semetko & Valkenburg, 2000)

Intercoder Reliability

To examine the reliability of the codebook, 10% of the stories (n=85) were coded twice by an independent coder with a master's degree in Journalism and Mass Communication. Scott's pi values ranged from 0.82 to 0.93. More specifically, for climate change dominant themes, Scott's Pi was 0.84; for the climate solution theme for determining whether the story is "information-rich" in reporting climate solutions, Scott's Pi was 0.88; for actions to combat climate change, Scott's Pi was 0.83; for the type of solution, Scott's Pi was 0.87; for determining whether the solution is short-term or long-term, Scott's Pi was 0.91; for solution target, Scott's Pi was 0.92; for efficacy information, Scott's Pi was 0.86; for evaluating the solution presentation,

Scott's Pi was 0.93. Following the data collection, the analysis was carried out using SPSS software.

Table (3): Climate Solutions Variables

Climate Solutions Variables		
Variable	Description	Reference
Solutions to address climate change	<ol style="list-style-type: none"> 1. Adaption: efforts to prepare for and cope with the repercussions of climate change 2. Mitigation: initiatives to limit or decrease the factors contributing to climate change and alleviate future consequences. 	(Seelig et al., 2022)
Type of Solution	<ol style="list-style-type: none"> 1. Individual: Personal behavioral efforts such as conserving energy, recycling, and buying local products. 2. Personal political engagement or activism: like voting, protesting, or contacting elected officials. 3. Business and technology: for instance, creating alternative energy sources and developing vehicles with improved fuel efficiency. 4. Governmental or policy measures: such as regulating emissions, introducing alternative energy, and implementing carbon taxes. 	(Hart & Feldman, 2014)
Type of Solution	<ol style="list-style-type: none"> 1. Short-term: actions or initiatives that yield prompt results and address the issue at hand. 2. Long-term: efforts that require time to implement and have lasting future effects. 	(Seelig et al., 2022)
Solution target	<ol style="list-style-type: none"> 1. Water, oceans 2. endangered species and ecosystems 3. environmental policy 	(Seelig et al., 2022)

	<ol style="list-style-type: none"> 4. air pollution 5. energy 6. Plastic 7. Education and training 8. Food 9. Waste 10. Transportation 11. Health 12. Land development 13. Toxic chemicals 14. Sustainability 15. Global warming. 	
Efficacy information: (whether the article includes explicit information related to)	<ol style="list-style-type: none"> 1. Self-efficacy: Self-efficacy pertains to the ease or difficulty individuals experience in taking personal steps to address climate change. 2. External efficacy: focuses on the responsiveness of “powerful others,” such as politicians and businesses, to public calls for action. 3. Response efficacy: emphasizes how actions addressing climate change will effectively reduce the threat. 4. Not applicable. 	(Hart & Feldman, 2014)
7- Evaluate the solution presentation: (Does the solution story include the four pillars of solutions journalism?)	<ol style="list-style-type: none"> 1. Response: The focus is on addressing a social problem and evaluating the success or failure of the response. 2. Evidence: quantitative or qualitative demonstrating the effectiveness or ineffectiveness of a given approach. 3. Limitations: Provide context by elucidating the shortcomings of the solution. 4. Insight: How the solution could be relevant and accessible to other contexts. 	(Solutions Journalism Network, n.d.a)

Semi-Structured Interviews

The second method used in this study is in-depth semi-structured interviews with Egypt and UAE-based journalists to develop a comprehensive overview of journalists' experiences, practices, and perceived challenges in reporting on climate change from a solutions lens. Interviews offer a valuable method for gaining in-depth insights into interviewees' experiences and perspectives on specific issues, surpassing other data collection techniques like surveys and focus groups (Lindlof & Taylor, 2019). The interview process is typically semi-structured, involving open-ended questions that provide a structured framework while allowing for spontaneous follow-up questions based on the conversation's flow (Brounéus, 2011).

In journalism research, interviews with journalists were always deemed highly beneficial due to their unique contribution to a holistic understanding of journalists' perspectives. Journalists demonstrate unique knowledge and can often articulate their experiences meaningfully and reflectively (Lindlof & Taylor, 2019). Over the years, scholars have turned to interviews with journalists to investigate a diverse spectrum of media-related subjects, as exemplified by their application in numerous studies such as those by Besley and McComas (2007), Attfield and Dowell (2003), Gingras and Carrier (1996) Gans (1979), and Tuchman (1972).

Sampling and Interview Procedure

A non-random purposive sampling method was employed to select interviewees for the qualitative phase of the study, which involves online semi-structured interviews with journalists with significant expertise in solutions journalism and climate change reporting in Egypt and the UAE. Furthermore, snowballing sampling was employed to seek recommendations and referrals from the researcher's network of contacts in journalism and climate change research.

The study's interviewees consisted of journalists based in Egypt and the UAE who work for the six media outlets subject to quantitative analysis in this research. Expert climate journalists from local, regional and international news media are also interviewed. This diverse representation allowed for a comprehensive exploration of the experiences and practices of Egypt and UAE-based journalists. The literature review was used as a guideline to structure the interview questions. The discussions encompassed a broad spectrum of topics related to solutions journalism, and climate change coverage. Interviewees were asked to describe the key themes and topics in their climate change reporting, share specific case studies or projects, and highlight any climate-related issues receiving significant media attention. Then, questions delved into journalists' approaches to solutions journalism, perceptions and motivations for pursuing it, and how they approach and implement stories from a solutions perspective. The interviews also probed the challenges journalists face in reporting climate change and climate solutions, particularly difficulties in sourcing and balancing positive and negative aspects, as well as how the politicization of climate change affects media coverage. Lastly, contextual questions surrounding COP27 and COP28 media coverage sought insights into their impact on the media attention and themes in climate change reporting. The interviews also touched upon the opportunities COP events presented for local media exposure and advancing climate journalism in the region.

After receiving the IRB approval and once potential interviewees were identified, the researcher initiated contact through email or professional social media platforms, explaining the purpose of the research and expressing interest in their insights and experiences. The voluntary nature of participation was emphasized. All interviewees were given an informed written consent form noting that their participation was voluntary and that they could skip questions or

discontinue participation at any time without penalty. All interviewees' identities are kept confidential to foster open and honest discussions with interviewees (Brounéus, 2011). The research sample consisted of 16 interviews with journalists, and interviews were online and semi-structured via Microsoft Teams video conferencing during mutually agreed-upon/convenient dates and times in October and November 2023. The interviews were conducted in Arabic, as it is the native language of the participants, and lasted for an average of 1 hour. Subsequently, the researcher, who is native to Arabic, transcribed and translated the interviews into English. Microsoft Teams transcriptions were used for the qualitative generation and analysis of the interview data.

Thematic Analysis

After transcribing the interviews, the researcher followed Webb's (2017) guidelines to conduct a thematic analysis, a widely recognized method for textual data analysis in both positivist and interpretive studies. The initial step involved open coding to identify recurring and emerging themes rather than using predetermined categories. Following Owen's (1984) criteria, themes were determined based on their recurrence, repetition, and forcefulness. Recurrence emphasizes the reappearance of the same idea with variations, repetition involves the use of identical or nearly identical words to convey the same concept, and forcefulness refers to the strong emphasis through verbal or nonverbal means. Themes and categories were established if they were reflected in two or more sources. This process included constant comparison and iterative reading of the dataset until saturation was reached, with no new themes emerging. Major themes were identified when a consensus was observed across most sources within the dataset (Webb, 2017).

Chapter Six: Results

For this study, a total of 841 news articles were selected from the six Egyptian and Emirati news websites. From Egypt, 164, 186, and 142 articles from Al-Ahram, Al-Masry Al-Youm, and Youm7 were analyzed, respectively. Meanwhile, from the United Arab Emirates (UAE), 152, 21, and 176 stories were selected from Alkhaleej, the National, and Al-Ain News, respectively.

Table (4) shows that most articles, comprising 646 (76.8%), were written by internal staff across the six news websites. Notably, 99.5% and 95.5% of stories on Al-Masry Al-Youm and the National were produced by internal staff. Similarly, the newspaper staff of Youm7 and Al-Ain contributed significantly to the content with (85.9%) and (85.7%) respectively. On the other hand, Al-Ahram and Alkhaleej had (32.9%) and (52.6%) of their content provided by wire services, signaling a substantial reliance on external sources for a significant portion of their news coverage. This pattern may imply a lack of dedicated staff or resources allocated to comprehensive climate reporting, indicating a potential gap in their coverage.

Table (4): Originality: Source of news article for news website.

		News Website						Total
		Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	
By wire services	Count	54	1	19	1	80	7	162
	Percentage	32.9%	0.5%	13.4%	4.8%	52.6%	4.0%	19.3%
Not clear	Count	3	0	1	2	26	1	33
	Percentage	1.8%	0.0%	0.7%	9.5%	17.1%	0.6%	3.9%
Written by internal staff	Count	107	185	122	18	46	168	646
	Percentage	65.2%	99.5%	85.9%	85.7%	30.3%	95.5%	76.8%
Total	Count	164	186	142	21	152	176	841
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Visual content analysis reveals a predominant use of images as the primary format, with 98.9% to 95.4% of articles from prominent sources like Al-Masry Al-Youm, and AlKhaleej incorporating visual elements in this form (Table 5). However, a notable finding is the limited utilization of alternative visual formats, such as video (2.5% to 5.7%) and illustration (0.4% to 0.7%). This suggests a potential lack of diversity in visual climate storytelling methods within the analyzed news articles. Additionally, the absence of visuals in some instances (1.2% to 4.6%) may indicate a missed opportunity for engaging multimedia content.

Table (5): Format of the visual.

		News Website						Total
		Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	
Image	Count	157	184	135	21	145	153	795
	Percentage	95.7%	98.9%	95.1%	100.0%	95.4%	86.9%	94.5%
Video	Count	3	2	6	0	0	10	21
	Percentage	1.8%	1.1%	4.2%	0.0%	0.0%	5.7%	2.5%
Illustration	Count	1	0	1	0	0	1	3
	Percentage	0.6%	0.0%	0.7%	0.0%	0.0%	0.6%	0.4%
No visuals	Count	3	0	0	0	7	0	10
	Percentage	1.8%	0.0%	0.0%	0.0%	4.6%	0.0%	1.2%
Both image and video	Count	0	0	0	0	0	10	10
	Percentage	0.0%	0.0%	0.0%	0.0%	0.0%	5.7%	1.2%
Podcast	Count	0	0	0	0	0	2	2
	Percentage	0.0%	0.0%	0.0%	0.0%	0.0%	1.1%	0.2%
Total	Count	164	186	142	21	152	176	841
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table (6) provides an insightful overview of how Egyptian and Emirati news websites covered events related to COP27 and COP28 within the context of climate change reporting. It is crucial to recognize variations in the editorial emphasis on specific conferences. The prominence of COP27 is evident across the three Egyptian news sources: Al-Ahram (63.4%), Youm7 (59.9%), and Al-Masry Al-Youm (58.1%). This coverage concentration may signify the strategic

editorial decision to prioritize COP27, potentially influenced by Egypt's conference hosting. Conversely, Emirati websites demonstrated a notably lower emphasis on COP27, with coverage ranging from 3.8% to 11.4%, starkly contrasting the more substantial attention given by Egyptian news websites. Furthermore, a noteworthy proportion of Emirati articles, as seen in Al-Ain News (66.7%), Alkhaleej (61.2%), and the National (67.6%), fall under the category “not applicable,” indicating a broader focus on climate-related issues rather than specific COP-related events. Alkhaleej (25.7%) and the National (20.5%) demonstrated a distinct interest in COP28-related preparations and developments. Nevertheless, it is important to note that the timeframe of this analysis includes the period when Egypt hosted COP27 but does not encompass the time of COP28. This temporal context could result in a lower volume of coverage for COP28, as news outlets might not have had the opportunity to report extensively on the event or its developments during the specified timeframe.

Table (6): Stories’ events Related to COP27/ COP28.

		News Website						Total
		Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	
Both COP27 and COP28	Count	1	1	0	0	5	1	8
	Percentage	0.6%	0.5%	0.0%	0.0%	3.3%	0.6%	1.0%
COP27	Count	104	108	5	5	15	20	337
	Percentage	63.4%	58.1%	59.9%	3.8%	9.9%	11.4%	40.1%
COP28	Count	5	7	5	2	39	36	94
	Percentage	3.0%	3.8%	3.5%	9.5%	25.7%	20.5%	11.2%
Not applicable	Count	54	70	52	14	93	119	402
	Percentage	32.9%	37.6%	36.6%	66.7%	61.2%	67.6%	47.8%
Total	Count	164	186	142	21	152	176	841
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Egyptian News Websites: Prominent Climate Themes

RQ1a inquired about the predominant themes of climate change coverage on Egyptian and Emirati news websites. When examining climate themes across Egyptian media, Al-Ahram, Youm7, and Al-Masry Al-Youm, the most defining feature of the coverage is a shared emphasis on governmental and inter-governmental activities (e.g., story's headline: 79.7 million trees planted by the ministry and the governorates as part of the president's initiative or Egypt dedicate its efforts to achieving the sixth goal of the Sustainable Development Goals related to water through Vision 2030). These outlets allocate substantial percentages to this frame, with Al-Ahram at 59.1%, Al-Masry Al-Youm at 50.5%, and Youm7 at 45.8%. This shared editorial stance consistently emphasizes official actions, activities, and policies addressing climate-related challenges within the Egyptian landscape. Moreover, Al-Ahram (20.7%) and Al-Masry Al-Youm (7.5%) allocate a notable portion of their coverage to groups, NGOs, and university activities.

In contrast, other climate change frames remain notably limited. For instance, disasters or catastrophes and climate justice rank third in coverage, ranging from 3.7% to 13.4%. Furthermore, themes such as human interest, economic consequences, progress, morality, attribution of responsibility, negotiations, public accountability, and settled science, among others, are relatively neglected, with percentages below 5%. This could signify a potential gap in Egyptian climate narratives and their representations of the multifaceted dimensions of climate change.

Emirati News Websites: Prominent Climate Themes

In the same vein, an emphasis on governmental and inter-governmental activities is also apparent among Emirati news media. 51.3% of Alkhaleej's articles are dedicated to this theme. The National features a lesser emphasis at 19.9%. The two websites also allocate a portion of

their coverage to groups, NGOs, and university activities, with the Alkhaleej at 13.8% and the National at 4.0%. In addition to these two dominant frames, the Emirati websites also allocate some attention to other climate change frames, albeit in varying degrees. Noteworthy is their focus on disasters or catastrophes, with percentages ranging from 18.2% (The National) to 8.6% (Alkhaleej), which could indicate an editorial interest in the impacts and challenges posed by climate change. The solution frame receives less attention, with percentages ranging from 4.8% to 10.2%.

It is worth mentioning that Al-Ain News diverges in its climate change framing from the other two Emirati outlets. For instance, Al-Ain News has zero stories falling under the governmental category. Additionally, Al-Ain News exhibits higher percentages in several frames, such as disasters (33.3%), climate justice and settled science (both 14.3%), and economic consequence (9.5%), presenting a unique editorial approach that sets it apart from its counterparts, which could be explained by Al-Ain Green Space section's emphasis on features and in-depth reports rather than breaking news.

Similar to Egyptian media, what stands out is the minimal attention given to several other critical climate change frames across these outlets. Attribution of responsibility, conflict, public accountability, economic progress, and others are frames that receive negligible or zero coverage within the content of these outlets, which could underscore an overall trend of overlooking specific dimensions of climate change.

Overall, the chi-square test results revealed significant differences between Egyptian and Emirati news websites in their climate change dominant frames ($\chi = 100.61$, $p < 0.001$).

Table (7): Dominant Climate Change Frames.

	News Website						
	Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	Total
Attribution of responsibility	1.8% (3)	2.7% (5)	0.7% (1)	4.8% (1)	0.7% (1)	3.4% (6)	2.0% (7)
Climate justice	3.7% (6)	7.5% (14)	13.4% (19)	14.3% (3)	2.6% (4)	4.5% (8)	6.4% (54)
Conflict	0.0% (0)	1.1% (2)	2.8% (4)	4.8% (1)	1.3% (2)	9.7% (17)	3.1% (26)
Disasters or catastrophes	2.4% (4)	5.4% (10)	11.3% (16)	33.3% (7)	8.6% (13)	18.2% (32)	9.8% (82)
Economic Consequences	0.6% (1)	0.0% (0)	4.2% (6)	9.5% (2)	1.3% (2)	4.5% (8)	2.3% (19)
Economic progress	0.0% (0)	0.5% (1)	0.0% (0)	4.8% (1)	2.6% (4)	6.3% (11)	2.0% (17)
Food security	1.2%(2)	7.5% (14)	5.6% (8)	4.8% (1)	0.7% (1)	4.0% (7)	3.9% (33)
Governmental and intergovernmental activities	59.1% (97)	50.5% (94)	45.8% (65)	0.0% (0)	51.3% (78)	19.9% (35)	43.9% (364)
Groups, NGOs, and universities activities	20.7% (34)	7.5% (14)	0.0% (0)	0.0% (0)	13.8% (21)	4.0% (7)	9.0% (76)
Health	0.0% (0)	2.2% (4)	0.0% (0)	0.0% (0)	0.7% (1)	2.3% (4)	1.1% (9)
Hope	1.8% (3)	0.5% (1)	0.0% (0)	0.0% (0)	3.3% (5)	2.3% (4)	1.5% (13)
Human interest:	2.4% (4)	4.8% (9)	2.1% (3)	4.8% (1)	3.3% (5)	5.7% (10)	3.8% (32)
Morality	0.6% (1)	0.0% (0)	1.4% (2)	0.0% (0)	0.7% (1)	1.1% (2)	0.7% (6)
National security	0.0% (0)	0.5% (1)	0.7% (1)	0.0% (0)	1.3% (2)	1.7% (3)	0.8% (7)
Negotiations	0.6% (1)	3.2% (6)	1.4% (2)	0.0% (0)	0.7% (1)	0.6% (1)	1.3% (11)
Public accountability	3.0% (5)	0.0% (0)	0.7% (1)	0.0% (0)	0.7% (1)	0.6% (1)	1.0% (8)
Settled Science	1.2% (2)	2.2% (4)	4.2% (6)	14.3% (3)	1.3% (2)	1.1% (2)	2.3% (19)
Solution	0.6% (1)	3.8% (7)	5.6% (8)	4.8% (1)	5.3% (8)	10.2% (18)	5.1% (43)
Total	100.0% (164)	100.0% (186)	100.0% (142)	100.0% (21)	100.0% (152)	100.0% (176)	100.0% (841)

Table (8): Chi-Square test: how climate frames themes varies across Egyptian and Emirati websites.

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	100.616a	19	0.000
Likelihood Ratio	105.378	19	0.000
N of Valid Cases	841		
a. 12 cells (30.0%) have expected count less than 5. The minimum expected count is .83. $\chi = 100.61, p < 0.001$.			

Climate Change Media Attention: Trends Over Time

RQ2b investigated discernible trends in media attention regarding the amount of coverage over time. A chi-square test was conducted for each media outlet per calendar quarter to analyze this. All Egyptian news media, Al-Ahram, Al-Masry Al-Youm, and Youm7, revealed distinctive coverage patterns over time (*Table 9*). Chi-square tests revealed significant differences in coverage amounts within the four calendar quarters over the specified timeframe (October 1, 2022–September 30, 2023). Al-Ahram exhibited a dominant focus in the first calendar quarter, with 72.6% of stories produced during this period, followed by sharp declines in subsequent quarters ($\chi = 198.878, p < 0.001$). Youm7 also demonstrated a prominent coverage focus in the first quarter (66.2%) ($\chi = 130.282, p < 0.001$). The same could be said of Al-Masry Al-Youm, that showcased a robust initial emphasis (53.2%) in the first quarter, followed by coverage fluctuations across subsequent quarters, with a significant chi-square of ($\chi = 79.849, p < 0.001$), reflecting varying levels of attention over time.

In terms of Emirati websites, Al-Ain News displayed a relatively stable approach, as indicated by an insignificant chi-square ($\chi = 2.810, p = 0.422$), suggesting fairly consistent coverage across quarters (a distribution of 28.6%, 9.5%, 33.3%, and 28.6%, respectively).

Alkhaleej exhibited a similar pattern ($\chi = 2.211$, $p = 0.530$) with a distribution of 21.7%, 25.7%, 23.0%, and 29.6%. Conversely, The National varied significantly and experienced a relative peak in coverage during the fourth quarter (35.8%), which coincided with the initial stages of COP28 preparations ($\chi = 17.955$, $p < 0.001$).

Table (9): Coverage distribution over the calendar quarters.

		Calendar Quarter				Total
		Q1: Oct 1 - Dec 31, 2022	Q2: 1 Jan - 31 Mar 2023	Q3: Apr 1 - 30 Jun 2023	Q4: Jul 1 - Sep 30, 2023	
Al-Ahram	Count	119	10	19	16	164
	Percentage	72.6%	6.1%	11.6%	9.8%	100.0%
Al-Masry Al-Youm	Count	99	24	31	32	186
	Percentage	53.2%	12.9%	16.7%	17.2%	100.0%
Yum7	Count	94	10	21	17	142
	Percentage	66.2%	7.0%	14.8%	12.0%	100.0%
Al-Ain News	Count	6	2	7	6	21
	Percentage	28.6%	9.5%	33.3%	28.6%	100.0%
Alkhaleej	Count	33	39	35	45	152
	Percentage	21.7%	25.7%	23.0%	29.6%	100.0%
The National	Count	52	30	31	63	176
	Percentage	29.5%	17.0%	17.6%	35.8%	100.0%
Total	Count	403	115	144	179	841
	Percentage	47.9%	13.7%	17.1%	21.3%	100.0%

Table (10): Chi-Square tests of Egyptian News websites: coverage distribution over the calendar quarters.

Test Statistics					
Chi-Square	198.878b	Chi-Square	79.849b	Chi-Square	130.282b
df	3	df	3	df	3
Asymp. Sig.	0.000	Asymp. Sig.	0.000	Asymp. Sig.	0.000
Al-Ahram		Al-Masry Al-Youm		Yum7	

Table (11): Chi-Square tests of Emirati News websites: coverage distribution over the calendar quarters.

Test Statistics					
Chi-Square	2.810b	Chi-Square	2.211b	Chi-Square	17.955b
df	3	df	3	df	3
Asymp. Sig.	0.422	Asymp. Sig.	0.530	Asymp. Sig.	0.000
Al-Ain News		Alkhaleej		The National	

Discussing Solutions: Prevalence of Climate Solutions

To comprehensively analyze solutions themes, **RQ2a** inquired about the prevalence of climate solutions stories that are information-rich in reporting solutions (*Table 12*). Most stories across Al-Ahram and Youm7 predominantly overlooked in-depth discussions of climate solutions, with 72.6% and 64.1% of stories overlooked solution narrative, respectively. On the other hand, Al-Masry Al-Youm leads in solutions stories, with 52.7% of stories identified as solutions-rich, which could reflect an emerging approach toward highlighting potential solutions to climate-related challenges. Additionally, the variation in these percentages may signify differences in Egyptian media editorial priorities and the evolving nature of climate discourse within news outlets.

In the Emirati media landscape, a similar overall trend could be observed regarding the scarcity of news stories providing comprehensive climate solutions. Alkhaleej and the National stand out with 30.9% and 30.7%, respectively, while Al-Ain News follows with only 23.8%.

Although the percentages of solution stories across Egyptian and Emirati media are substantially low, these figures could still signal a gradual shift toward a solution-oriented narrative, suggesting a more informed and engaged climate reporting approach.

Table (12): Prevalence of climate solutions.

Is the story information-rich in reporting climate solutions?		News Website						Total
		Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	
No	Count	119	88	91	16	105	122	541
	Percentage	72.6%	47.3%	64.1%	76.2%	69.1%	69.3%	64.3%
Yes	Count	45	98	51	5	47	54	300
	Percentage	27.4%	52.7%	35.9%	23.8%	30.9%	30.7%	35.7%
Total	Count	164	186	142	21	152	176	841
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Discussing Solutions: Prevalence of Climate Adaptation and Mitigation Frames

In terms of climate solutions stories, **RQ1b** inquired about the prevalence of adaptation and mitigation frames. A noteworthy observation is the prevalence of the mitigation frame (i.e., efforts to reduce or prevent the causes of climate change or slow down future climate impacts), which is emphasized across all Egyptian and Emirati outlets, particularly in Al-Ahram (62.2%), the National (57.4%), Youm7 (51.0%), and Alkhaleej (51.1%). This strong focus on mitigation strategies suggests a concentration on addressing the root causes of climate change and taking the edge off greenhouse gas emissions. Simultaneously, the adaptation frame (i.e., actions that are happening now to prepare for and adjust to the consequences of climate change) is less prevalent but still significant, with Al-Masry Al-Youm (27.6%) and The National (24.1%) showcasing a relatively noteworthy emphasis on adaptation strategies. Additionally, a considerable percentage of stories (30%) across all outlets incorporate adaptation and mitigation solutions, indicating a comprehensive narrative addressing climate change (*Table 13*).

Table (13): Adaption and mitigation solutions to combat climate change

		News Website						Total
		Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	
Adaption	Count	4	27	12	1	7	13	64
	Percentage	8.9%	27.6%	23.5%	20.0%	14.9%	24.1%	21.3%
Mitigation	Count	28	35	26	2	24	31	146
	Percentage	62.2%	35.7%	51.0%	40.0%	51.1%	57.4%	48.7%
Both	Count	13	36	13	2	16	10	90
	Percentage	28.9%	36.7%	25.5%	40.0%	34.0%	18.5%	30.0%
Total	Count	45	98	51	5	47	54	300
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Discussing Solutions: Type of Solutions and Solution Target

RQ2c inquired about the types of solutions featured in the climate solutions coverage. Notable is the dominance of policy or government solutions across most news websites, as seen in Al-Ahram (68.9%), Al-Masry Al-Youm (60.2%), Youm7 (82.4%), Al-Ain News (60.0%), and Alkhaleej (66.0%). Egyptian and Emirati websites predominantly showcase governmental initiatives and official actions, potentially overlooking other community-driven initiatives and individual actions. This shared emphasis on policy and government solutions may be attributed to the prevalence of governmental and intergovernmental activities as the dominant climate change frame, as discussed above. It should be noted, however, that business and technological innovation solutions also garner notable attention, with the National standing out at 40.7% (*Table 14*).

Interestingly, the findings reveal a significant gap in the coverage of individual-level climate solutions. Both individual behavior change and individual political action or advocacy receive the least amount of coverage, with average percentages of 5.7% and 6.3%, respectively.

This minimal coverage for individual-level initiatives may marginalize the crucial role of individual behaviors and advocacy in addressing climate change.

Furthermore, most stories highlight long-term solutions (average 82%). Conversely, short-term solutions receive comparatively lower focus across all websites, with an average of 7.7% (*Table 15*).

Table (14): Type of solutions

		News Website						Total
		Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	
Business and technological innovation	Count	12	29	4	1	9	22	77
	Percentage	26.7%	29.6%	7.8%	20.0%	19.1%	40.7%	25.7%
Individual behavior change	Count	1	4	4	0	2	6	17
	Percentage	2.2%	4.1%	7.8%	0.0%	4.3%	11.1%	5.7%
Personal political engagement or activism	Count	1	6	1	1	5	5	19
	Percentage	2.2%	6.1%	2.0%	20.0%	10.6%	9.3%	6.3%
Policy or government measures	Count	31	59	42	3	31	21	187
	Percentage	68.9%	60.2%	82.4%	60.0%	66.0%	38.9%	62.3%
Total	Count	45	98	51	5	47	54	300
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Table (15): Type of solutions: long and short-term solutions

		News Website						Total
		Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	
Long-term solution	Count	22	90	38	5	37	54	46
	Percentage	48.9%	91.8%	74.5%	100.0%	78.7%	100.0%	82.0%
Short-term solution	Count	7	5	8	0	3	0	23
	Percentage	15.6%	5.1%	15.7%	0.0%	6.4%	0.0%	7.7%
Not clear	Count	16	3	5	0	7	0	1
	Percentage	35.6%	3.1%	9.8%	0.0%	14.9%	0.0%	10.3%
Total	Count	45	98	51	5	47	54	300

	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
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RQ2c inquired about solution targets within climate change solution stories. Overall, there is a notable variation in how Egyptian and Emirati media outlets prioritize specific solution targets. On the one hand, Al-Ahram, Al-Masry Al-Youm, and Youm7 tended to emphasize food, environmental policy, sustainability, energy, and global warming topics. On the other hand, Al-Ain News, Alkhaleej, and the National exhibit a more varied distribution of solution targets, emphasizing issues like education and training, energy, food, environmental policy, sustainability, and toxic chemicals. Notably, Alkhaleej and the National emphasize the energy target, with 27.7% and 35.2% of their solutions stories dedicated to energy-related solutions, respectively. This could be attributed to the local context of the UAE, represented by its pivotal focus on energy diversification, including renewable and clean energy sources. Another key takeaway is the relatively lower attention given to specific targets, such as air pollution, transportation, health, and endangered species and ecosystems, which implies a gap in the coverage regarding these critical dimensions of climate solutions (*Table 16*).

Table (16): Solutions target.

		News Website						Total
		Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	
Air pollution	Count	0	1	1	0	0	0	2
	Percentage	0.0%	1.0%	2.0%	0.0%	0.0%	0.0%	0.7%
Education and training	Count	3	9	5	1	4	3	25
	Percentage	6.7%	9.2%	9.8%	20.0%	8.5%	5.6%	8.3%
Endangered species and ecosystems	Count	4	2	0	0	2	1	9
	Percentage	8.9%	2.0%	0.0%	0.0%	4.3%	1.9%	3.0%
energy	Count	2	9	5	0	13	19	48
	Percentage	4.4%	9.2%	9.8%	0.0%	27.7%	35.2%	16.0%
Environmental policy	Count	5	11	15	1	4	3	39
	Percentage	11.1%	11.2%	29.4%	20.0%	8.5%	5.6%	13.0%
Food	Count	6	12	3	1	3	4	29
	Percentage	13.3%	12.2%	5.9%	20.0%	6.4%	7.4%	9.7%

Global warming	Count	4	3	5	0	3	5	20
	Percentage	8.9%	3.1%	9.8%	0.0%	6.4%	9.3%	6.7%
Health	Count	0	1	0	0	0	1	2
	Percentage	0.0%	1.0%	0.0%	0.0%	0.0%	1.9%	0.7%
Land development	Count	0	17	5	0	3	3	28
	Percentage	0.0%	17.3%	9.8%	0.0%	6.4%	5.6%	9.3%
Sustainability	Count	6	26	4	1	10	6	53
	Percentage	13.3%	26.5%	7.8%	20.0%	21.3%	11.1%	17.7%
Toxic chemicals	Count	9	1	0	1	4	3	18
	Percentage	20.0%	1.0%	0.0%	20.0%	8.5%	5.6%	6.0%
Transportation	Count	0	1	0	0	0	1	2
	Percentage	0.0%	1.0%	0.0%	0.0%	0.0%	1.9%	0.7%
Waste	Count	4	1	2	0	1	3	11
	Percentage	8.9%	1.0%	3.9%	0.0%	2.1%	5.6%	3.7%
Water, oceans	Count	2	4	6	0	0	2	14
	Percentage	4.4%	4.1%	11.8%	0.0%	0.0%	3.7%	4.7%
Total	Count	45	98	51	5	47	54	300
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

RQ2e delved into the location of the response (i.e., where the solution has been implemented). Most Egyptian and Emirati websites primarily address climate responses within the local context. For instance, 80.6%, 66.7%, and 55.6% of Al-Masry Al-Youm, Youm7, and Al-Ahram cover solutions specific to the Egyptian context. Meanwhile, 66% and 42.6% of Alkhaleej's and the National's climate stories are centered on the UAE, emphasizing the websites' adherence to covering local climate actions.

Table 17 also illustrates a notable but relatively modest representation of developing countries. Around 20.4% of The National's stories, 15.7% of Youm7's, and 14.3% of Al-Masry Al-Youm's stories extend their solution coverage to developing countries. This suggests the media's attempt to shed light on climate-related challenges faced by other developing nations.

Table (17): Location of response.

		News Website						Total
		Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	
Egypt	Count	25	79	34	2	4	3	147
	Percentage	55.6%	80.6%	66.7%	40.0%	8.5%	5.6%	49.0%
United Arab Emirates	Count	1	1	0	0	31	23	56
	Percentage	2.2%	1.0%	0.0%	0.0%	66.0%	42.6%	18.7%
Developing countries	Count	10	14	8	0	4	11	41
	Percentage	8.9%	14.3%	15.7%	0.0%	8.4%	20.4%	13.6%
Developed countries.	Count	6	2	4	2	3	13	30
	Percentage	13.3%	2.0%	7.8%	40.0%	6.4%	24.1%	10.0%
Worldwide	Count	9	2	5	1	5	4	26
	Percentage	20.0%	2.0%	9.8%	20.0%	10.6%	7.4%	8.7%
Total	Count	45	98	51	5	47	54	300
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Discussing Solutions: Efficacy Information

RQ3 inquired about types of efficacy information. Notably, response efficacy (i.e., the effectiveness of climate actions in reducing threats) takes precedence. Noteworthy percentages range from 93.3% in Al-Ahram to 59.6% in Alkhaleej, which may underscore the media efforts to spotlight impactful climate initiatives and their potential positive outcomes (*Table 18*).

External efficacy (i.e., responses to public calls for action by powerful others) constitutes an average of 21% across all websites. This emphasis may indicate a recognition of the pivotal role of influential entities, such as politicians and businesses, in addressing climate change on a broader scale.

Self-efficacy (i.e., information on individuals' ability to take personal steps to address climate change) appears to be ignored mainly across most outlets, with percentages ranging from 5.9% in Youm7 to 10.6% in Alkhaleej. Although the National (20.4%) and Al-Ain News

demonstrate a moderate emphasis (20%), this overall trend suggests a potential gap in highlighting individual agency and grassroots initiatives across various platforms.

Table (18): Efficacy information.

		News Website						Total
		Al-Ahram	Al-Masry Al-Youm	Youm7	Al-Ain News	Alkhaleej	The National	
External efficacy	Count	3	28	10	1	10	11	63
	Percentage	6.7%	28.6%	19.6%	20.0%	21.3%	20.4%	21.0%
Response efficacy	Count	42	33	29	1	28	19	152
	Percentage	93.3%	33.7%	56.9%	20.0%	59.6%	35.2%	50.7%
Self-efficacy	Count	0	12	3	1	5	11	32
	Percentage	0.0%	12.2%	5.9%	20.0%	10.6%	20.4%	10.7%
Not applicable	Count	0	25	9	2	4	13	53
	Percentage	0.0%	25.5%	17.6%	40.0%	8.5%	24.1%	17.7%
Total	Count	45	98	51	5	47	54	300
	Percentage	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Discussing Solutions: Evaluate the solution presentation

To address RQ4, the four pillars of solutions journalism (i.e., response, evidence, insights, and limitations) were analyzed to evaluate the solution presentation and if the story genuinely falls under solutions journalism.

The findings reveal remarkable variations across the sampled stories. The “response” pillar is uniformly present across all solution stories. However, divergences become apparent when considering the other three criteria—evidence, insight, and limitation. “Evidence,” which assesses the inclusion of supporting data and facts, exhibits significant disparity, ranging from 20.4% in Al-Masry Al-Youm to 68.1% in Alkhaleej. This suggests varying degrees of reliance on factual information to underpin the presented climate solutions. Similarly, “insight,” which distills the lessons that make the response relevant and accessible to others, shows discrepancies among outlets, with Youm7 at 17.6% and The National leading at 66.7% (*Table 19*).

Most importantly, “limitation,” which explores potential shortcomings of the proposed solutions, is conspicuously absent, with percentages ranging from 5.1% to 9.8% across the three Egyptian websites. This little attention given to thoroughly addressing limitations may contribute to a narrative that leans towards optimism without critically examining drawbacks or the complexities associated with climate solutions. In contrast, the “limitation” pillar is more prominently featured in UAE-based outlets, particularly in the National (50%) and Al-Ain News (40.0%), indicating a comparatively higher emphasis on critically examining the potential shortcomings.

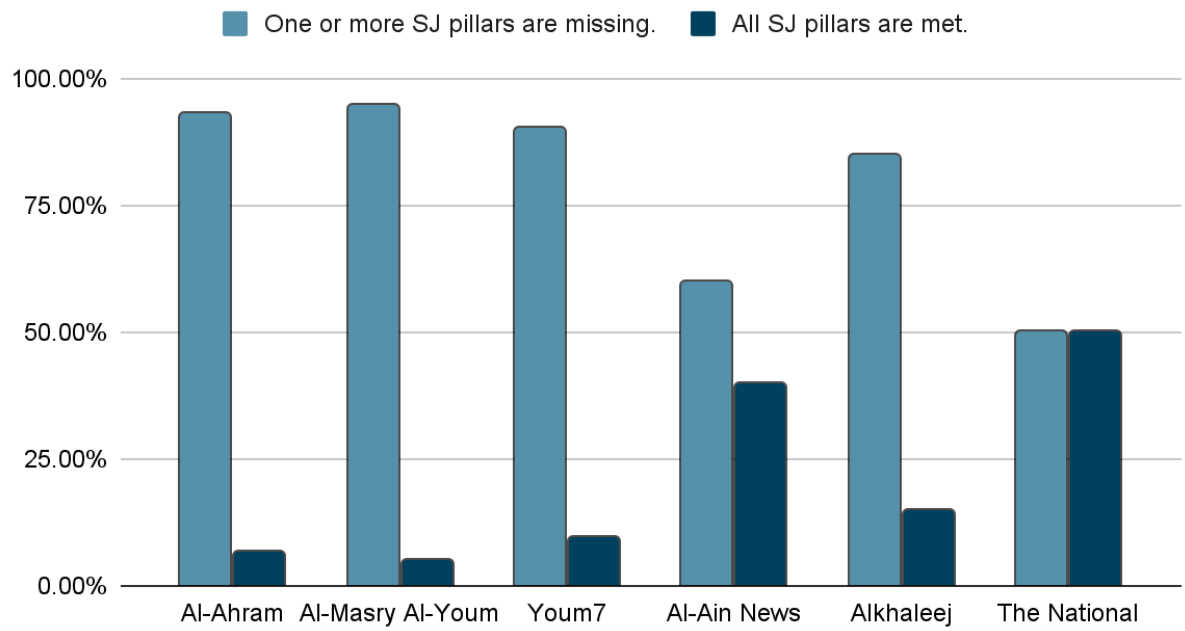
Overall, the absence of several pillars of solutions journalism raises concerns about the qualification of many reported climate solutions as true instances of solutions journalism. Solutions journalism, by definition, should encompass all four pillars to ensure a comprehensive and nuanced presentation of solutions. Accordingly, it could be argued that a significant portion of the information-rich climate stories in reporting solutions may not fully meet the criteria of solutions journalism. For instance, Al-Masry Al-Youm, Al-Ahram, and Alkhaleej demonstrate notable percentages of stories missing one or more pillars at 94.9%, 93%, and 85.1%, respectively. On the positive side, the National is noteworthy for achieving a relative balance, with 50% of its solution stories meeting all solutions journalism criteria (*figure 1*).

Table (19): The presentation of the four pillars of solutions journalism.

	News Website											
	Al-Ahram		Al-Masry Al-Youm		Youm7		Al-Ain News		Alkhaleej		The National	
	Count	%	Count	%	Count	%	Count	%	Count	%	Count	%
Evidence	24	53.3%	20	20.4%	11	21.6%	3	60.0%	32	68.1%	35	64.8%
Insight	15	33.3%	22	22.4%	9	17.6%	3	60.0%	27	57.4%	36	66.7%
Limitation	3	6.7%	5	5.1%	5	9.8%	2	40.0%	7	14.9%	27	50.0%
Response	45	100.0%	98	100.0%	51	100.0%	5	100.0%	47	100.0%	54	100.0%

Figure (1): The presentation of solutions journalism.

The presentation of solutions journalism



The second phase of this study includes a total of 16 interviews with Egypt and UAE-based science and climate journalists. The snapshot of the state of climate change reporting in Egypt and the UAE reveals a dynamic interplay of developments, challenges, and evolving journalistic practices. The findings are structured to address related research questions. They begin by exploring the climate journalism landscape in Egypt and the UAE, emphasizing the extent of the coverage and prevalent narratives. The findings then delve into the journalists' perceptions, motivations, and practices of solutions journalism, along with an exploration of journalists' perceived challenges in capacity building, editorial structure, and the political sphere. Finally, the findings synthesize critical insights and lessons, guiding future climate change reporting efforts regionally and globally.

Evolution of Climate Journalism in the Light of COP27 and COP28

To answer RQ5, the findings explore the state of climate change in Egypt and the UAE and how the two nations compare regarding their climate coverage and predominant climate themes. Climate change coverage has undergone a noteworthy shift in Egypt and the UAE. An initial lack of local media recognition of climate change was extensively reported, with some news media considering the topic “eccentric” and dismissing it as “irrelevant” or “luxurious,” perhaps due to its perceived distance from immediate local concerns or a sense that it concerns “wealthier nations,” as outlined by several journalists. Furthermore, journalists referred to media resistance, a lack of awareness and understanding of the scientific evidence supporting climate change. Journalist (6) noted,

“Climate change garnered little media recognition, and news organizations used to dismiss or downplay the seriousness of climate change, and it was massively perceived as exaggerated or unfounded.”

Journalists argued that this reluctance of news organizations to engage in climate change reporting contributed to a broader climate of skepticism and even news avoidance among the public. Nonetheless, journalists reported a recent notable surge in media interest in climate journalism, a striking departure from previous years. This newfound enthusiasm can be attributed to various factors, including official tendencies and media campaigns aligned with COP27 and COP28. Journalist (8) remarked,

“Climate change journalism has become more widespread and attractive to journalists. In the past, climate stories garnered little media attention, and they were often relegated to the inside pages and given little space. With Egypt hosting COP last year and with the UAE this year, this has sparked extensive media campaigns, seminars, and conferences, fostering a renewed interest among journalists.”

This delayed but emerging interest in climate change within mainstream media, mainly observed in the lead-up to COP27 and COP28, indicates a strategic response to official tendencies. Traditionally distant from specialized climate coverage, the news media are recalibrating their priorities to align with palpable official movements. As such, interviewees argued that this shift not only opened doors for more journalists to focus on climate change but also served as a meeting ground for journalists and experts without the financial burden that had traditionally impeded their involvement in past COPs summits due to a plethora of grant opportunities available to local journalists. This networking opportunity enabled the establishment of connections with credible sources from around the world, contributing to more influential and informed climate change coverage. Additionally, COPs gave local journalists unprecedented access to training, workshops, and in-depth discussions on climate reporting and negotiations, providing a rich source for stories illustrating the diverse impacts of climate change

on human lives. It should be noted, however, that this heightened awareness experienced a sharp decline in Egypt post-COP27 due to a perceived lack of official and media interest in the climate agenda. Journalist (14) emphasized this subsequent drop in coverage, stating,

“Even with Egypt retaining the COP Presidency until the commencement of COP28 later this year, and considering that the upcoming COP is hosted in an Arab country, we observe a stark absence of climate coverage and discussions in the local media of Egypt immediately following COP27.”

Journalists explained that one contributing factor to this dramatic decline is the limited funding resources, a challenge distinct from Global North countries with more extensive financial support. However, interestingly, another journalist provided a nuanced perspective, emphasizing the enduring impact of climate summits on local climate journalism in Egypt. Journalist (8) noted,

“While the intensity of climate coverage may not return to the peak witnessed during the COP27 momentum, there are notable gains. Specialized websites dedicated to climate change will continue to provide consistent coverage, and dedicated climate sections in the news media will continue to offer regular content.”

Concurrently, interviewees commonly cited the evolving attitudes of the public as instrumental in reshaping media priorities. Readers’ perspectives reflect a growing awareness and concern about climate change, underpinned by the tangible impacts felt in their lives, in agriculture, health, and economy. This shift in public sentiment has instigated a notable increase in climate coverage. For instance, relevant stories highlighting the impact of heatwaves, neighborhoods at risk of drowning in Alexandria, and alterations in water levels in the Delta region of Egypt have become focal media points. Journalist (5) stated,

“I had a conversation with a taxi driver, who, despite having only a middle school education, his first-hand observations of climate change impacts, namely temperature fluctuations and seasonal variations, prompted a profound realization. He, like many others, became actively engaged as the unfolding changes directly impacted him as a small landowner. This personal narrative is a microcosm of a gradual societal shift, inspiring us as journalists and underscoring the transformative power of raising awareness among diverse audiences.”

Taken together, interviewees explained that all the above factors have sparked a surge in enthusiasm for climate journalism among local journalists in Egypt and the UAE. Some journalists revealed that they embarked on their journey in climate journalism as they often found themselves “pioneers” in the field. This pioneering spirit was driven by a notable void in climate change coverage within the local journalism landscape, motivating journalists to fill the gap and draw attention to environmental issues. Additionally, the limited number of local science journalists and promising career opportunities catalyzed the recognition of climate journalism's untapped potential and professional growth opportunities amid the hyper-competitive and evolving journalism market. Reflecting on the growing momentum, journalist (8) elaborated,

“There has been a surge in grants, competitions, and international conferences, offering motivational incentives for journalists. Many journalists express a keen desire to learn climate journalism through professional development training. This heightened interest was also fed by news platforms that demonstrated sustained interest through in-depth coverage of climate change—an evolution from the earlier reporting stages.”

Additionally, the intersectionality of climate change with other areas, such as water scarcity, politics, and biodiversity, emerged as another motivating factor. Journalists revealed that

the appeal of climate journalism lies in its proximity to people's lives and the broader implications for the planet, which emphasizes the need to communicate the crisis comprehensively. Interestingly, a profound sense of responsibility resonates prominently among interviewees. They expressed awareness of their critical role in shaping public understanding and fostering climate action. For instance, some journalists mentioned a shift from considering climate journalism merely a "professional duty" to adopting it as a cause linked to the "survival of the Earth and future generations."

Climate Change Narratives and Dominant Themes: Egypt and the UAE

1- Egypt:

The climate change narratives in Egyptian media encompass a wide array of themes and story types, reflecting a multifaceted approach to reporting on climate change. One prominent climate theme involves creating special reports to educate the public about climate change and elucidate its potential impacts on the environment, economy, and public health. Journalists also expressed enthusiasm for stories rooted in scientific research. Journalist (1) remarked,

"Such stories are rooted in robust scientific research dedicated to unraveling the complexities of climate change. These stories serve the crucial purpose of keeping our audience informed of climate change's most recent breakthroughs and advancements."

Additionally, journalists outlined real-life examples and testimonies as crucial in humanizing climate change stories, illustrating the tangible impact on the local community. Along the same lines, some interviewees emphasized stories centered on community initiatives that address climate change, such as environmental awareness campaigns, energy-saving initiatives, and sustainability efforts within local communities. Furthermore, journalists reported their attempts to emphasize climate justice. Journalist (12) explained,

“We try to spotlight the inequitable outcomes for developing countries due to their vulnerability to climate impacts. Despite representing approximately 17% of the global population, Africa's carbon emissions only amount to 1.45 billion metric tons, illustrating how the obligations placed on developing nations surpass their actual capacities.”

Regarding recurring climate topics, a predominant focus on food security is massively reported, as the situation has been exacerbated in the aftermath of the Russo-Ukrainian War. Journalist (13) noted,

“Food security is the most pressing issue within our Egyptian context. We strive to report on solutions and societal responses, such as seed banks, to conserve plant genetic diversity.”

The narratives also touch on themes specific to Egypt, such as health, rising sea levels, water scarcity, hot weather, agriculture, and sustainability. Journalist (8) added,

“Climate change and its impacts on coastal cities in terms of sea level rise, global temperature rise, altered rainfall patterns, and extreme weather, along with related socio-economic repercussions, also form the core of local climate coverage.”

These themes collectively contributed to making climate a “trendy” topic in the local media.

2- The United Arab Emirates (UAE)

In terms of UAE's local media, the climate change narratives hinge on two prominent narratives, as outlined by journalists. At the forefront is the economic aspect, which involves the implications of sustainability and climate change on economic aspects—a vital priority for the UAE. Journalist (11) articulated,

“The intersection of economic and environmental facets is an editorial priority. From the realms of green and yellow economy to the innovations in purple economy, including green hydrogen and clean energy, these diverse sectors play pivotal roles in the UAE. The state made significant strides in these areas, providing us as journalists with ample content opportunities.”

The second narrative involves simplifying the discourse around the climate crisis, connecting it to rising temperatures, and desertification—elements that directly impact people's daily lives. This approach is clarified by journalist (8),

“Our emphasis lies in bridging the gap between the gravity of the issue and the public, fostering awareness that ensures comprehension and mindfulness for future generations. This is achieved by promoting behaviors that align with sustainability principles and minimize resource consumption.”

Regarding recurring climate topics, UAE-based journalists reported that they actively focus on renewable energy initiatives and sustainability measures. This aligns with the UAE's national projects focusing on clean energy. Journalist (9) highlighted,

“Given the UAE taking the lead in global initiatives, and there are very large national companies dedicated to clean energy and sustainability, it becomes imperative for local media to engage in these matters actively.”

Moreover, a distinctive feature of Emirati climate reporting is the immense effort to enhance the relevance of international stories for local readers. The focus extends beyond local news, aiming to connect global events with their impact on the UAE. As journalist (14) noted,

“This includes highlighting the effects of climate events like the Storm Daniel and the collapse of the West Antarctic Ice Sheet on the UAE. We also show solutions and actionable measures from the local community.”

In this context, it is important to recall that although journalists in both Egypt and the UAE reported diverse climate change themes and stories, our content analysis results for the six Egyptian and Emirati news websites revealed a noteworthy disparity. Most climate themes reported by journalists were inadequately covered, with governmental and intergovernmental activities dominating the climate coverage on these websites. This prevalence suggests a potential gap between the perceived importance of climate-related themes and their representation in the local media. Notably, journalists in both countries acknowledged the widespread inclusion of government-related content in the local news media, wherein official narratives and government activities took precedence. The coverage extensively focuses on prominent figures such as presidents, ministers, and ambassadors, prioritizing official initiatives. Journalist (12) explained this proliferation:

“We have different editorial policies and teams managing the news portal and the print edition. The online portal is mainly for breaking news sharing (day-to-day news), while the print edition is more for investigative pieces and features.”

Even though the journalist emphasized their efforts to ensure content consistency between print and online platforms, there appears to be a discrepancy in the editorial standards and priorities between different platforms. This divergence also highlights the complexity of climate news presentation and distribution, potentially influencing the online emphasis on governmental narratives, thereby impacting the depth and thoroughness of climate stories available to the public.

Editorial Policy-Making in Egypt and the UAE

As outlined by interviewees, the findings signal significant disparities in the editorial approaches of Egypt and the UAE concerning climate change coverage. The UAE's state-driven prioritization and proactive planning for climate change and COP28 contrast Egypt's reactive and localized focus on climate and COP27.

In Egypt, dedicated science or climate sections are absent across different local media outlets. Al-Ahram is a unique player with the oldest science section in the Arab world and the only local newspaper with a dedicated science section, as noted by journalist (12). Al-Ahram Science Section focuses on addressing climate “lifeline” areas with tangible impacts, such as water scarcity, waste management, and the impact of climate change on agriculture.

Contrary to this, a surge in editorial interest in the UAE, particularly in the anticipation of COP28, is evident. Multiple local news media have dedicated website sections for climate change and COP28 coverage to raise awareness and inform and engage audiences. UAE-based journalists explained that this shift towards specialized climate sections was driven by the UAE's state-driven prioritization of climate change in conjunction with the nation's global initiatives and COP28's hosting. Journalists noted that the UAE treats climate change as a “state priority rather than a public concern.” This is reflected in media coverage focusing on strategic issues like clean energy and notable projects such as the Barakah Nuclear Power Plant, the first nuclear power station in the Arabian Peninsula. Furthermore, journalists argued that the UAE's media initiated COP28 coverage a year before the conference's date, reflecting a proactive media stance to create momentum. In Egypt, attention to climate change is less pronounced, as dedicated institutions for climate promotion are lacking. Journalist (11) elaborated,

“Every editorial policy operates within the bounds of a legislative framework and societal context. Being home to some of the world's largest renewable energy companies underscores the UAE’s vital role in taking decisive action regarding climate coverage.”

Furthermore, journalists noted that climate-related stories receive substantial funding in the UAE, considering that the Ministry of Climate Change and Environment manages COP28. In contrast, the Egyptian Ministry of Foreign Affairs managed COP27, which could imply a “substantial difference in the approach to climate coverage between the two countries, with Egypt considering COP27 as a huge opportunity for diplomacy to burnish its regional credentials,” as emphasized by journalist (2).

Egypt's media also faced other reporting challenges, including the late initiation of COP27 coverage, underestimation of the event's significance, a lack of editorial motivation to harness the skills of climate-specialized journalists, and the sharp decline in climate coverage post-COP27, as shown in the quantitative results of the Egyptian websites. More significantly, most UAE-based journalists have signaled an existing gap in specialized full-time staff in climate journalism, as most reporters covering climate change are freelancers. As COP28 approaches, the Emirati local media has taken a distinctive approach by heavily hiring freelance climate journalists to provide in-depth coverage. Journalist (11) elucidated,

“Our team here at Al-Ain News consists of freelance climate journalists with a solid specialization in climate reporting. Although the freelance structure allows us to provide comprehensive coverage of climate-related stories and complement the existing workforce, it also underscores the apparent gap in full-time specialized journalists.”

This gap raises concerns about news media's consistency and long-term commitment to invest in climate journalism, which could impact the depth and continuity of climate coverage in

the long run. It is also worth noting that the examination of editorial policies for climate change in Egypt and the UAE reveals a shared challenge—the presence of what can be termed as “luxury awareness” that signifies a state of superficial engagement and often temporary and trend-driven awareness, especially during COP events.”

Reporting on Climate Change from a Solutions Lens

To answer RQ6, this findings section investigates how climate and science journalists in Egypt and the UAE navigate climate change from a solutions perspective. This detailed findings section explores the journalists’ perceptions of solutions journalism, motivations, practices, and perceived shortcomings.

How Journalists Perceive Solutions Journalism

Solutions journalism, a journalistic approach that focuses on identifying and presenting positive solutions to societal issues, has garnered varying perceptions and awareness levels regarding the formal concept among journalists in Egypt and the UAE.

Without explicit knowledge of the term, all participating journalists acknowledged practicing solutions journalism before it gained formal recognition and became a “trending” term. They explained that this was not a conscious adherence to a specific methodology but rather an intuitive attempt to highlight positive responses. Journalist (7) captured this sentiment, stating,

“Before knowing about solutions journalism, I was trying to implement similar approaches in my work, driven by a genuine interest in presenting positive and effective responses to societal challenges. Learning about this concept excited me, as it offered a structured framework to follow.”

Journalists conceptualize solutions journalism as a distinct genre with the primary aim of discovering and presenting positive solutions. This conceptualization is rooted in the desire to mitigate the constant stream of media's negative climate coverage. Interestingly, most interviewees extensively link between solutions journalism and investigative reporting, emphasizing the shared commitment to in-depth reporting and validation of information. This focus on solid, rigorous data emerges as a key element in their approach to ensure transparency and encourage critical thinking among readers. Journalists also stressed the importance of discerning between “mere coverage of initiatives and authentic solutions in journalism.” Journalist (6) articulated,

“Rather than simply highlighting achievements and presenting success stories, such as 'Look at what the government has achieved,' my approach involves delving critically into specific elements to evaluate solutions' effectiveness.”

Additionally, there was a consensus among several journalists that solutions journalism places a greater emphasis on presenting a multitude of initiatives rather than singular successes. Journalist (6) stated,

“I avoid solely spotlighting an individual success story. My approach involves investigating a spectrum of initiatives related to climate solutions. I aim to provide a comprehensive view, prompting readers to consider the underlying issues and fostering inspiration for collective efforts.”

Another key takeaway is that several journalists shared that solutions journalism aims to spotlight attempts at solutions, whether successful or not. Journalist (7) explained,

“Solutions journalism gives local journalists a voice to reflect meticulously on their contexts to steer clear of the repetition of failures by offering valuable insights into what worked and what did not.”

“I wrote a story on a groundbreaking Japanese-made filter capable of reducing around 95% of gas emissions. However, this technology has limitations, as it cannot be applied in our region. Nevertheless, the story still presents a positive solution that may inspire individuals and communities to take proactive steps and contribute to broader initiatives,” journalist (1) added.

Meanwhile, a notable aspect emerges in journalists' understanding of what solutions journalism is not. Many interviewees consistently emphasized that solutions journalism is not a form of public relations or positive journalism. Journalists also seem to resist the notion that solutions journalism is purely “positive journalism.” They signaled the balanced approach of solutions journalism, where both the problem and potential solutions are discussed to avoid overly positive treatment. Journalist (7) explained,

“The notion of solutions journalism addresses the inherent imbalance in the negative representation of climate news, a fundamental challenge facing journalism. solutions journalism seeks to engage audiences more effectively by presenting challenges and viable solutions.”

Particularly noteworthy are some journalists' reluctance to label their practices as “solutions journalism,” viewing journalistic genre classification as serving primarily “academic purposes” and being detached from the dynamic reality of professional newsrooms. They explained that news story selection structures are more fluid and responsive to real-time events,

challenging the applicability of theoretical frameworks that may oversimplify this vibrant decision-making process. Journalist (12) noted,

“The story selection process involves a constant interplay between journalists' editorial judgment, newsroom priorities, and the evolving news landscape. Such rigid categorization may not fully capture newsrooms' organic, day-to-day decision-making.”

By the same token, another journalist referred to solutions journalism as more of a “buzzword.” Journalist (2) argued that solutions-oriented reporting had been an inherent part of their journalism approaches for over a decade without explicit “labeling.”

These divergent perspectives on solutions journalism underscore the challenges in defining and universally applying the term. While some journalists are comfortable aligning with the label, others find it inadequate or unnecessary, highlighting the need for a more nuanced and context-specific understanding of journalistic practices.

Journalists' Motivations for Pursuing Solutions Journalism

Many journalists in Egypt and the UAE expressed a shared motivation to raise awareness and inspire the public through solutions journalism. They recognized the power of “constructive dialogue beyond mere information dissemination” to engage audiences. More importantly, journalists acknowledged a prevalent trend of news avoidance, as typical climate coverage is laden with conflict and negativity. Journalist (8) underscored this motivation, saying,

“We seek to inject hope into the climate narrative and emphasize the importance of adapting to and mitigating the effects of climate change.”

Journalists aim to encourage a proactive and holistic stance in addressing climate change challenges by actively engaging in solutions journalism. They also underscored the persistent

and prolonged climate change crisis, highlighting the urgent need to advocate for and spotlight climate solutions.

Furthermore, journalists emphasized an inherent motivation to spotlight local solutions, especially in developing countries, taking into account these solutions' applicability, scalability, and replicability. Journalist (8) explained,

“By consistently highlighting solutions in my stories in areas like smart agriculture, climate, or eco-friendly fashion, I aim to inform, foster sustainability, and inspire positive change in our contexts in developing nations.”

Interestingly, interviewees pointed out the growing popularity of solutions journalism and attributed it to extensive training opportunities, increased funding for solutions stories, and a broader media landscape that prioritizes such narratives. Journalist (3) explained,

“This rise aligns with an international trend towards a more constructive approach to news. Consequently, journalists felt pressured to invest efforts in effectively covering solutions.”

How Journalists Approach Solutions Journalism

In their pursuit to incorporate climate solutions frames, journalists demonstrated a diverse and comprehensive approach. Journalists employ a varied and thorough storytelling approach, incorporating scientific, community-based, and individual solutions to create a rich tapestry of climate solutions journalism. They articulated their strategies, corresponding to the four key tenets of solutions journalism: response, evidence, limitations, and insights. They begin by comprehensively identifying and assessing climate problems to offer a comprehensive understanding. The subsequent step involves spotlighting climate solution initiatives and gauging their potential impact and efficacy through interviews with diverse stakeholders. This holistic

approach also addresses limitations such as funding, context, or application scale to ensure a thorough exploration of each solution. Journalist (8) reflected,

“As solutions journalists, our goal is to investigate the feasibility of a solution and what hurdles hinder its implementation. The intent is to pose questions to assess the generalizability of the solution, fostering a deeper understanding among our readers.”

Interviewees also emphasized extensive research and critical evaluation of solutions, considering not all efforts successful but valuable, with the ultimate goal of informing the public and introducing these solutions to policymakers. Journalist (13) elaborated,

“I actively explore the potential within each solution, moving beyond raw information to critically outline the challenges inherent in the solution and identify key success points. For instance, in my story on the Great Man-Made River in Libya, while acknowledging its significant benefits, it was crucial to highlight the associated problems, such as the depletion of groundwater sources. This comprehensive evaluation ensures a balanced and informative portrayal of climate solutions.”

Although content analysis revealed a tendency to overlook individual solutions, science journalists preferred individual-based approaches. They emphasized that they mainly target the public to raise awareness about sustainable practices, which could contribute to broader societal changes. Journalist (11) noted,

“In solutions journalism, our emphasis lies in campaigns that address immediate public concerns and encourage simple behavioral changes. We are still at the initial stages, where we have not delved sufficiently into the more profound dimensions that extend beyond the public to officials and decision-makers.”

In the same vein, a noteworthy emphasis emerged on reporting community-based solutions and initiatives. Such community solutions may lack a scientific base but still demonstrate a profound impact. Journalist (9) shared an example, saying,

“I covered a story on how farmers in Kafr El-Shaikh, Egypt, developed solutions to address soil salinization caused by climate change and rising sea levels. Farmers devised innovative solutions to protect their lands that could inform other similar contexts. Local communities affected by climate change often possess valuable solutions, and it is our responsibility as journalists to bring these solutions to light.”

Journalists noted that by shedding light on globally relevant experiences, they tend to create an extensive shared knowledge pool that can benefit citizens in neighboring countries facing similar challenges. The journalistic focus also extends to scientific solutions provided by experts that governments could implement, suggesting an interest in policies and large-scale interventions. Notably, several journalists underscored the essence of solutions journalism in depicting tangible, on-the-ground solutions and evaluating their effectiveness per SJN's principles. Conversely, some journalists acknowledged that their approach to solutions journalism may predominantly involve presenting "hypothetical" solutions derived from global scientific propositions, given the limited number of climate solution initiatives in their local contexts. Journalist (4) explained this variation,

“We have several challenges in accessing or identifying tangible, on-the-ground solutions in our Arab settings, leading us to explore hypothetical solutions based on broader research or scientific insights.”

This divergence may suggest a dynamic, diverse, and adaptive approach to solutions journalism, where journalists navigate a spectrum of practical solutions and theoretical

propositions to address climate change. It also underscores the complexity of reporting on solutions and adapting journalistic approaches to the unique circumstances of different regions and contexts.

Perceived Shortcomings in Solutions Journalism

Journalists noted a critical observation in the tendency to report initiatives swiftly without a substantial on-ground impact. This sentiment articulates the concern that many reports appear as mere promotions without delving into the actual execution or progress of the initiative. Journalist (8) explained,

“Many stories in local media end up showcasing initiatives merely as promotional endeavors, focusing on goals and achievements. While it is important to highlight these efforts, we should go beyond the surface-level coverage and investigate the multilayered nature of solutions to address the real problems we are facing.”

Additionally, journalists elaborated on concerns about how these distorted practices of solutions journalism may resemble propaganda, lacking the necessary depth to provide valuable insights into the effectiveness and long-term implications. Journalist (8) remarked,

“The essence of solutions journalism encompasses an in-depth examination of obstacles, challenges, feasibility, and the sustained impact of the initiative. Without this comprehensive approach, the journalistic endeavor falls short of true solutions journalism.”

In a parallel vein, journalists argued that local media often grapples with a notable shortcoming in addressing the two essential parallels of solutions journalism—insights and limitations. This deficiency is particularly evident, with most reported solutions being either hypothetical or ascent in the initial stages, implying a lack of tangible impacts on the ground and

diminishing solutions journalism's depth and analytical value in the local media landscape. Most importantly, this could echo the quantitative results that showed a substantial absence of most solutions journalism criteria within the solutions stories across the six Egyptian and Emirati websites. Journalists noted the need for a balanced approach to enlighten the public about the gravity of the issue before delving into potential remedies. Journalist (2) noted,

“We want to inspire action, but it is essential not to oversimplify climate change, as it is a complex problem. There is also a risk of complacency, where we might underestimate the gravity of climate change. So, balancing raising awareness and offering realistic solutions is the key.”

Interestingly, some interviewees expressed caution towards the editorial shift to endorse solutions journalism as it seems driven, in part, by a political desire to sidestep criticism and maintain a favorable image rather than to provide an objective account of events. In the meantime, journalists reported inherent restrictions on discussing negative aspects rooted in the local socio-political landscape. Journalist (6) explained,

“In an environment where negativity is discouraged, there is a risk of overlooking critical issues and promoting a skewed narrative due to legal constraints or self-censorship, particularly when it comes to matters involving the state.”

Journalists argued that this constraint goes beyond refraining from attributing responsibility and extends to posing a unique challenge for the comprehensive understanding of problems and their root causes. Meanwhile, interviewees reflected on a significant gap between international and local media coverage, where international climate coverage tended to be more negative, while local media adopted a more positive stance.

Although most journalists agreed that embracing solutions journalism is crucial for addressing the prevalent challenges, a concern was raised that solutions “imported” from other regions might not be applicable or effective in the Arab context. The Arab sphere was identified as distinct from more developed areas, with differences in awareness, governmental policies, and reader engagement, shaking up the practices of solutions journalism. Journalist (2) elaborated,

“Most solutions stories heavily portray "imported" solutions that could be less relevant to our context, given the unique challenge of news avoidance among Arab readers, which necessitate a tailored nuanced approach to solution reporting.”

Climate Journalism Challenges: Insights from Journalists in Egypt and the UAE

To address RQ7, this section examines the challenges journalists face in Egypt and the UAE when reporting climate change. The findings delve into the journalists' experiences in staffing and capacity building, editorial and organizational structures, and the political sphere, shedding light on the intricacies of climate reporting in these contexts.

Challenges: Staffing and Capacity-Building

Remarkably, it has been widely noted that climate change's scientific complexities and multiscale dynamics severely affect journalists' understanding and communication. Effectively reporting on scientific aspects demands climate journalism specialization, necessitating journalists to possess high-level skills, knowledge, and scientific awareness across diverse domains. However, this challenge is further exacerbated by a notable talent shortage in climate and science journalism within newsrooms. Journalist (9) argued,

“Due to the intricate nature of climate change, climate reporting is often deemed challenging, deterring local journalists who might consider it inscrutable and least engaging.”

This avoidance impedes the diversification of climate reporting and highlights a broader challenge in attracting journalists committed to the in-depth exploration of climate stories. Moreover, local news media lack sections and reporters dedicated to science journalism. As journalist (1) pointed out,

“Most Egyptian newsrooms typically consist of extensive political, sports, and arts departments, each staffed with over 30 reporters. However, when considering science or climate journalism, there is often only one reporter dedicated to covering these critical topics. In the case of Al-Masry Al-Youm, there was a notable absence of a dedicated scientific department, leaving me as the sole reporter in this field.”

Beyond the notable scarcity of science journalists, journalists contended that even when local media hire science journalists, these journalists cannot be categorized as “specialized climate journalists.” Journalist (1) explained,

“Across the Arab media landscape, there is a widespread practice of super journalists who juggle responsibilities across five or six branches of science journalism, extending beyond mere climate reporting.”

Journalists highlighted that this multifaceted approach results from the expectations set by newspapers and institutions, which prefer hiring journalists capable of covering all facets of science journalism, creating an environment where specialization becomes challenging, particularly in climate journalism. The issue is compounded by many local journalists venturing into climate journalism without sufficient preparation, particularly following the announcement of COP hosting. This is echoed by journalist (1), who pointed out,

“Given that a majority of journalists mainly came from political, business, or economics sections, their foray into climate change journalism without prior preparation

has presented a significant challenge to the readiness and quality of their climate coverage.”

Journalists emphasized that this lack of preparedness resulted in a knowledge void and notable unfamiliarity with climate change terminologies and abbreviations, substantially compromising adequate climate reporting. They also argued that local journalists' substantial lack of specialization could partially explain the predominance of protocol news and government statements within climate coverage.

Furthermore, interviewees noted that many local journalists shifted to climate journalism partly for economic reasons to “make a living” without a genuine commitment to understanding the subject. Consequently, this knowledge void introduces further complexities tied to misinformation and denial, intruding the climate reporting scene. Some journalists pinpointed a notable challenge linked to skepticism surrounding “human-made climate change” among local peers, often dismissing it as more of a “hoax.” For instance, journalist (4) highlighted,

“During a training session I conducted for the staff at a public Egyptian newspaper, a prominent deputy editor cast doubt climate change, asserting that the issue is exaggerated by the 'west' to suppress developing countries.”

Journalists underscored the urgency for constant information verification in climate journalism. However, given the prevailing knowledge gap and misinformation, local journalists may face severe difficulties in effectively engaging with scientists and researchers.

Challenges: Editorial and Organizational Structures

The findings reveal a multifaceted set of challenges, from editorial disinterest and struggles for coverage to structural and budgetary constraints impacting the climate reporting landscape in Egypt and the UAE. Journalists noted a general lack of editorial interest in climate

journalism, challenging journalists' planning and specializing in climate coverage. This lack of editorial interest becomes evident when examining Egyptian and Emirati news media's dedicated science and climate sections. Emirati media showcased a proactive approach by establishing specialized units on their websites to cover climate change and COP28, providing them a competitive edge over their Egyptian counterparts, thanks to substantial funding opportunities. However, journalists cautioned that this heightened interest appears temporary, with a significant portion of climate stories relying on news from Emirati officials rather than in-depth climate reporting.

In contrast, journalists reported that Egyptian media face a more pronounced lack of editorial enthusiasm, exemplified by the dramatic regression of editorial focus on science and climate journalism. One illustrative example is Al-Ahram, which, despite having a dedicated science section, no longer has a dedicated page for science journalism, even in the print edition, as was the case before. Interviewees attributed this regression to swift changes in editorial priorities, wherein specialized pages, including science, were sacrificed and redistributed in favor of general news sections.

Journalists further elaborated that news editors lean towards stories that attract more “advertising” opportunities. They emphasize stories such as sports, arts, and the economy, which are believed to drive online reach and engagement. This editorial preference suggests prioritizing content with higher commercial value, overshadowing other crucial subjects like climate journalism. Journalist (14) elaborated,

“Unfortunately, we do not prioritize investing in science journalism due to a misconception that these stories lack traffic, popularity, and readership, which is untrue.

We notice a growing interest among the public in climate change. Journalists must

emphasize climate journalism's long-term relevance and highlight success stories to foster a more informed and engaged readership.”

Moreover, journalists identified climate change as a sensitive and cross-cutting topic, with economic considerations often influencing editorial policies. Journalist (9) remarked,

“The intersection of economic interests and external influences of business lobbying and governments poses significant pressures on journalistic independence, a common challenge across newsrooms in Egypt and the UAE.”

The lack of editorial interest further exacerbates the struggle for climate stories to gain prominence, particularly in securing a place on the front page, whether in print or on websites. Journalists signaled a striking issue with the placement of climate stories, with an editorial tendency to relegate them to the last or internal pages with limited space, hampering their visibility and impact. Journalists noted that desk editors' lack of scientific background exacerbates this challenge. Journalist (6) explained,

“Instead of consulting the journalist for clarification, editors sometimes veer off-topic, resulting in distorted or incomplete final stories. They also lean towards using catchy but misleading titles to capture audience attention that may not accurately reflect the content.”

Journalists emphasized that this focus on sensational titles, coupled with weak reporting language and prioritizing attractive storytelling over scientific content, often leads to overlooking the in-depth content and solutions discussed in the stories. Furthermore, interviewees highlighted the lack of climate journalism training within local news media. This absence compounds the challenges journalists face as they strive to bring climate issues to the forefront of public

discourse, leading them to resort to international organizations for essential professional development.

Challenges in the Arab Sphere: Politicization and Data Access

The Politicization of Climate Change

According to journalists, the landscape of climate journalism in Egypt and the UAE has been significantly affected by the politicization of climate change. Two main elements are distinct from this politicization discourse: self-censorship and lack of attribution of responsibility. Journalists emphasized that climate change is inherently political, leading to self-censorship by journalists who avoid attributing problems to government policies or spotting the root causes to sidestep clashes with those in power. Journalist (4) elaborated,

“On many occasions, we refrain from holding the government accountable or attributing responsibility. For instance, the Alexandria sinking crisis is exacerbated by high-rise government-built structures along the coastline. These buildings are vulnerable to rising sea levels, increasing the risk of flooding, storm surge damage, erosion, and foundation damage. Yet, stories rarely delve into these critical elements.”

Journalists noted facing different pressures from authorities, compelling them to steer discussions in particular directions. This dynamic underscores the intricate relationship between journalism and political sensitivities as the broader narrative surrounding climate change becomes entwined with avoiding direct scrutiny of governmental blunders or policy shortcomings. More importantly, interviewees observed that the politicization of climate change extends beyond immediate journalistic challenges, creating a ripple effect that backfires and erodes public trust. Journalist (5) stated,

“The Egyptian government's sudden interest has triggered a noteworthy consequence. We started to observe people who have begun to avoid the issue of climate change because of political complexities and perceived government interference in shaping the narrative.”

Furthermore, journalists underscored how climate politicization influences story selection and prioritization, favoring specific narratives over others. For instance, journalist (4) illustrated,

“A striking example is the disparate coverage between the sinking crisis of Alexandria and that of the Delta, despite the latter being a critical agricultural hub for Egypt. The emphasis on Alexandria, attributed to its international fame, reflects a political maneuver to bolster government positions and attract funding.”

As such, this selective attention perpetuates a skewed public perception, neglecting pressing issues for political expediency. Moreover, journalists reported the discernible influence of political sensitivities in shaping the narrative and editorial choices, varying depending on the outlet and country. Journalist (5) provided an instance, stating,

“In the UAE, there is a distinct tendency to prioritize solutions-oriented coverage while deliberately steering clear of topics like fossil fuels, which align with the state's prescribed editorial direction and lobbying interests as the country is among the world's leading oil producers.”

Meanwhile, many journalists highlighted governments and corporations' pervasive practice of greenwashing, shaping the narrative around climate actions. Journalist (11) noted,

“All governments strive to enhance their reputations and project a positive image of them as environmentally friendly. Greenwashing is apparent in media coverage for

climate solutions in Egypt and the UAE. The conflicting agendas and reputation management efforts impacted the information flow and narrative framing.”

Journalists emphasized how greenwashing challenges journalistic integrity amid political and corporate influences. Hence, they further noted the journalists’ need to assess and contextualize information critically to scrutinize the environmental initiatives and avoid attempts to mislead the public.

Challenges: Data Access and Source Reliability

Overall, there was an agreement among interviewees on the substantial shortage of reliable climate change data in the Arab world, a persistent issue fueled by governmental restrictions and political influences, making it challenging to access local data information. Journalists signaled the challenge of lack of credible sources in climate change, exacerbated by sources and experts' declining participation and government sources causing delays or exerting pressure on journalism work. Journalist (1) echoed this sentiment, noting,

“We face a major challenge in accessing trustworthy local sources that can provide a comprehensive understanding of climate-related issues. Since many key sources are government-affiliated, their reliability and trustworthiness are often questioned due to political interventions and policy influences.”

Journalists also highlighted the reluctance of sources to participate, contributing to the sphere of data scarcity. Moreover, they pointed out structural challenges that restrict data access to mainly state-controlled media. Journalist (2) shared insights on this challenge, stating,

“We struggle with regulatory restrictions that fail to ensure our rights to access data. Moreover, the limited data available is frequently exclusive to state-controlled media outlets. The reliance on international organizations, such as the United Nations

global reports, for data, further impedes our capacity to independently and locally cover climate change.”

Along the same lines, journalists noted the scarcity of relevant research on climate change in the Middle East and North Africa region to support their stories. Journalist (10) explained,

“This limited availability of scientific research complicates our work and burdens us to act as firsthand witnesses. As a result, our journalistic role is stretched beyond reporting to actively identifying first-hand accounts of the situation.”

Beyond limited data and sources, interviewees noted another challenge: sources’ fear of speaking up openly or revealing their identities due to the politicization of climate change coverage. As journalist (13) emphasized,

“We try to report diverse contradicting viewpoints and conduct interviews with various sources to uphold transparency and objectivity. However, even sources agree to participate; many opt to remain anonymous, driven by fear of expressing critical stances, which signifies the prevailing culture of fear.”

As the region grapples with the major impacts of climate change, journalists contended that data access and source reliability not only hinder comprehensive climate reporting but also reveal a deeper issue of information control and obstruction, arguing the need for a robust and accessible knowledge base for informed media reporting and genuine public awareness.

Drawing Insights for Future Climate Reporting: Lessons from Egypt and the UAE

To address RQ8, this section delves into the experiences and practices of climate change reporting in Egypt and the UAE, aiming to uncover valuable lessons that could help shape the trajectory of future climate journalism efforts in the MENA region and beyond. The findings

yielded valuable recommendations based on practices by journalists in Egypt and the UAE, addressing challenges, fostering compelling storytelling and offering practical insights for a more informed discourse on climate change.

The Five Pillars of Audience Engagement

Taken together, journalists identified five pillars of climate engagement to engage their audience actively: humanizing climate change, simplifying science, assessing the relevance, continuity of climate change coverage, and self-efficacy information.

Humanizing climate stories emerged as a concrete practice. Journalists reported actively incorporating human angles and personal narratives to make climate issues relevant and impactful for the readers. Journalist (8) shared,

“In local media, the practice of incorporating human stories into climate change reporting is not commonly embraced. The traditional approach allocated limited space to climate issues, predominantly emphasizing news or scientific aspects. My practice involves weaving human stories into climate reporting, detailing the lives and experiences of individuals affected. This transforms rigid and dry scientific subjects into compelling narratives, resonating with a broader audience.”

Similarly, journalists emphasized the crucial aspect of relevance and proximity. This recommendation aligns with the observed shift in audience attitudes, as people now perceive climate impacts as more tangible. The focus on relevant stories, such as the impact of heat waves, water scarcity, and the broader effects on health, reflects the growing awareness of climate change’s local implications. Journalist (1) elaborated,

“We try to connect climate stories with the immediate experiences of the audience, such as the seasonal changes in precipitation and temperature. Significantly,

our focus extends to making even international news relevant to the local public concerns. For instance, highlight how climate change affects price inflation, so we spotlight the relevance of climate stories to economic matters that concern the public most.”

Journalists also underscored the importance of prioritizing coverage of stories from similar contexts, such as focusing on other Arab and developing countries. They argued that this strategic emphasis on proximity allows for a deeper understanding of the challenges faced by the region and, crucially, how these occurrences may impact nearby countries.

In the same vein, interviewees stressed climate journalists’ need to prioritize clarity and accessibility in their reporting. This practice simplifies science for a wider audience by breaking down complex terms and concepts related to climate change to bridge the gap between scientific jargon and public understanding. Journalist (15) added,

“Journalists need to stop overlooking the audience’s lack of familiarity with scientific terms. Failure to simplify such specialized content might lead audiences to perceive it as too advanced, resulting in their disengagement.”

Furthermore, journalists noted that ensuring the continuity of climate change coverage is a paramount strategy to ensure sustained focus and commitment to the topic. They emphasized that climate reporting should be immune to political volatility and not linked solely to temporary news events like disasters. Instead, journalist (6) stated,

“There is a need for consistent reminders about the urgency of climate change to foster a comprehensive understanding and growing engagement among the public. Journalists need to recognize the long-term nature of the environmental challenges ahead by maintaining a steady focus on sustained coverage of topics like rationalizing energy,

water consumption, and clean energy so they can instill a sense of urgency and responsibility among the public.”

Interviewees addressed the need to prioritize thematic climate change framing to explore the multifaceted dimensions of environmental issues. Finally, interviews highlighted the need to center on self-efficacy in climate journalism to empower the audience. By spotlighting concrete examples of how individual friendly environment efforts could contribute to the broader community impact. Journalist (1) added,

“Storytelling that prioritizes self-efficacy information informs, engages and empowers people to take action. We try to showcase each person's contribution, which is vital to the larger environmental narrative and collective commitment to sustainable practices.”

As such, journalists’ reporting of positive outcomes, from reduced energy consumption to community resilience, fosters a sense of personal agency.

Overcoming the Publishing Dilemma: Embracing Freelance Journalism

Freelance journalism stands out as a strategic solution deployed by many prominent science journalists to escape constraints and offer diverse perspectives and unique insights that complement traditional newsroom narratives. Journalists noted that the traditional hierarchy in local newsrooms often impedes career advancement and professional growth opportunities. As journalist (4) expressed,

“Within local media hierarchy structures, journalists often grapple with a restricted role, focusing more on editing than writing, as the latter is typically delegated to reporters. This limitation stifles our active contribution and creative expression. Conversely, the freelance fosters unparalleled creativity and in-depth climate reporting.

Nevertheless, this comes with the necessity to diversify outlets, as job opportunities are abundant yet dispersed.”

Science journalists frequently cited personal circumstances, the relative freedom of story selection, time, and professional development as motivating factors for shifting to freelance journalism. Journalist (8) highlighted,

“The prevailing system across local news institutions prioritizes quantity over quality. Journalists are often compelled to meet rigid targets, producing many reports regardless of their depth or resonance. This approach overlooks the essence of quality journalism. Working as a freelancer gives me more freedom and time for self-improvement.”

Additionally, journalists noted their increasing tendency to seek independent and international media platforms and secure grants and funding to avoid organizational constraints. It should be noted, however, that freelance journalists expressed several challenges, such as publishing instability and delayed financial returns. Journalist (5) noted,

“I may spend more than a month without publishing anything, and financial returns can be delayed, impacting my stability and income. Freelancers also lack institutional support and encounter hurdles in syndicate's enrollment, recognition from official sources, and obtaining permissions.”

Despite these challenges, the freelance journalism movement signifies a broader transformation in the field, reflecting a shift towards independent platforms and a quest for narratives beyond traditional newsrooms' confines.

Mitigating Climate Politicization and Data Scarcity

Journalists outlined a robust model to counter external pressures and ensure transparent coverage. Journalists advocated for critical analysis to counter political pressures, ensuring an issue's whole picture is presented. They emphasized using multiple and independent sources, including official ones, to spot discrepancies in information. Journalist (4) explained,

“It is about harnessing the power of the text to present conflicting stories and divergent perspectives that challenge the information at hand.”

Furthermore, maintaining a rapport with government entities without being confrontational was underscored, accompanied by a cautious approach toward governmental information. Declining to publish a story was also noted as a strategic choice to resist political interventions, as journalist (11) expressed,

“At times, I chose not to proceed with publishing if I discern an inappropriate interference that severely compromise my journalistic objectivity. The decision to withhold publication becomes more than an editorial choice. It transforms into a conscientious decision.”

Interestingly, as journalists acknowledged the culture of fear and self-censorship, they highlighted using personal social media accounts to publish opinions and stories as a tool to navigate politically sensitive topics that might be kept from local media that are widely state-controlled. As such, social media serves as a platform for critical and transparent coverage of climate justice and greenwashing issues. The importance of building a global network of journalists and experts to share information was also underscored. Journalist (12) elaborated,

“In instances where the editorial landscape may not provide ample room for specific topics, we find solace in our personal social media platforms. It is a unique

opportunity to stand as individual media brands and share our opinions. Globally, numerous journalists share this ethos, recognizing the importance of independent voices. Regardless of our organizational umbrella, social media enables us to reclaim the narrative.”

Similarly, to combat greenwashing, journalists stressed the importance of avoiding public relations tactics and incorporating contextual information relevant to their countries. They emphasized the need to scrutinize how promises are broken and how companies meet their pledges. On a related note, as data scarcity was reported as one of the most persistent challenges facing journalists, interviewees highlighted several strategies involving leveraging international sources and technology to enhance information accessibility and reliability. For instance, satellite imagery and Geographic Information System (GIS) analyses are crucial investigative tools to generate various climate change data on current and future climate-related risks such as desertification, coastal change, rising temperatures, and more. The generated insights undergo a thorough examination by journalists and specialists to ensure their accuracy and relevance. Furthermore, journalists stressed evaluating public interest and solidifying conversations with the public to gain valuable insights into prevalent climate issues and potential solutions. Journalists underscored the importance of adopting a model tailored to the local context, which relies on local sources, particularly in areas with limited data availability. Journalist (10) elaborated,

“We should not marginalize the role of citizens. We must engage with them, recognizing that they can offer insights and perspectives on the impacts and solutions of climate change that are at times more vivid and direct than what rigid scientific research alone may provide.”

Interviewees noted that recognizing the significance of daily life experiences, such as the intersection of violence and climate issues, among other topics, further enriches the climate narrative. Moving beyond, addressing misinformation is integral to maintaining the integrity of climate data. Journalists reported incorporating gatekeeping, selective sourcing, peer-reviewed papers, and artificial intelligence to ensure the accuracy and reliability of information.

Addressing Perceived Shortcomings in Climate Solutions Journalism

Journalists put forth the necessity to tailor solutions journalism to local contexts, urging a “redefinition” of its scope. As journalist (3) articulated,

“Solutions journalism must be adapted to our local context, and we must change our mindset to recognize that well-executed solutions stories can be informative, profitable, and engaging alike.”

Interviewees outlined that this reframing involves comprehensively studying solutions journalism and approaching it critically. The need to evaluate solutions by consulting experts, seeking independent scientific perspectives, and employing rigorous fact-checking processes emerged as pivotal strategies to explore the real potential of solutions away from greenwashing. Journalists proposed a model that discourages hero worship, promotes a focus on broader applications for a more comprehensive perspective, and declines the coverage of individual solutions that are limited in scope.

Particularly noteworthy is that professional development emerges as a catalyst for overcoming these challenges. The imperative lies in capacity building to enhance journalists’ ability to navigate the complex landscape of climate solutions reporting. Along the same lines, a call for improved climate literacy is resonating widely among interviewees, emphasizing the

importance of journalists being well-versed in the scientific nuances to contribute meaningfully to the discourse on climate change.

Empowering Climate Journalism Through Specialized Platforms

The emergence of science-based platforms takes center stage, offering pivotal sources of climate information. Journalists posited that specialist websites offer a compelling solution to the dearth of specialized climate reporting in the local media landscape. For instance, journalist (9), the founder of Ozone platform for climate journalism, reflected,

“Ozone platform takes a bold step to address challenges in climate coverage specific to the Middle East. We focus on diverse aspects of climate stories to combat fake news, utilizing a business model incorporating solutions-oriented reporting, investigative journalism, and in-depth analyses crucial for our Arab readers.”

Journalists underscored the importance of these specialist platforms in challenging existing news paradigms. Journalists establish their unique authority and character through a complementary contribution to mainstream reporting. In a parallel vein, interviewees reported using various journalistic practices to inform and engage audiences by presenting a wide array of specialized content, and scientific expertise. Journalist (14), the founder of the Green Future website for climate journalism, emphasized,

“Recognizing climate as not just an environmental topic but also an economic one, we integrate economic solutions and progress into our content. Providing targeted support, resources, and diverse content in Arabic could contribute significantly to elevating awareness, understanding, and engagement with climate issues in the Arab world and beyond.”

In a different endeavor, journalist (8) founded the Climate School Initiative to capitalize on the capacity-building skills of local journalists. Journalist (8) explained,

“We founded Climate School in 2017 to consolidate climate journalism in the Arab world. We have trained over 600 journalists and extended support to seasoned journalists and students. We seek to deliver scientifically accurate yet simplified climate messages by presenting narratives in a humane, accessible, and precise.”

Interestingly, most of these journalists are affiliated with local media outlets, signifying a notable shift away from local media restrictions that could reflect a strategic response to open new avenues for diverse and quality climate journalism.

Journalists also aspired to bridge the gap in perceptions of specific regions and combat negative stereotypes and incomplete narratives. Solutions journalism was seen as a tool to shed light on positive aspects and potential solutions rather than perpetuate a focus on crises, particularly in the global south. Journalist (7) shared her motivation behind founding the Egab Initiative, a platform dedicated to solutions journalism that supports local journalists in the Middle East. The initiative facilitates connections with regional and international media to publish solution-oriented stories. She explained,

“I initiated Egab to challenge the prevailing narrative surrounding Global South countries in the media. These regions often find themselves thrust into the limelight only during disasters, overshadowing their multifaceted aspects and potential solutions. This realization fueled my enthusiasm to specialize in solutions journalism towards a more balanced and comprehensive portrayal that extends beyond a crisis-centric mindset.”

Another key takeaway from the findings is the proactive initiative by journalists to establish networking platforms for Arab climate journalists. The rationale behind this move is the

belief that these networks have the potential to address several challenges faced by Arab journalists in the science journalism realm. One example is the Environment and Climate Journalism (ECJ) Network in MENA, an independent regional network. Intending to provide robust support to local journalists, ECJ focuses on cooperation among journalists as well as their professional development by equipping them with the resources essential for elevating their climate reporting. As the co-founder of ECJ, Journalist (5) articulated,

“Such specialist networks would foster a positive environment for cooperation among climate journalists, facilitating the exchange of ideas, resources, and experiences that enhances their individual and collective capacities.”

Additionally, these platforms facilitate connections between journalists and news platforms across different Arab countries in response to the scarcity of local data and limited dedicated science platforms.

Chapter Seven: Discussion

Climate change poses significant and widespread threats, emphasizing the crucial role of journalism in addressing this crisis. However, crisis-oriented reporting on climate change has come to grips with criticism for its incompetence in empowering readers and fostering support for climate action. Arguably, by rigorously balancing positive and negative aspects, solutions journalism emerges as a potential remedy, promising to extend and reshape the doom and gloom narrative surrounding climate change.

In the global south, especially within the Arab sphere, there is a research void regarding climate journalism and solutions journalism. This prompted a necessary exploration to unpack the state of climate journalism in Egypt and the UAE, the Arab hosts of COP27 and COP28, respectively. Anticipating such hosting would impart substantial momentum in local news media and elevate the climate change discourse; the overarching goal of this research was to scrutinize the application of solutions journalism in climate change reporting and identify the various challenges journalists face in this domain.

Employing a mixed-methods approach, combining quantitative and qualitative methodologies, the study investigated the climate change reporting narratives of six prominent Egyptian and Emirati news websites and their climate solutions approach. Additionally, interviews were conducted with science journalists in both countries to gain a comprehensive understanding of their practices. This research is among the earliest studies in Egypt and the UAE focusing on solutions journalism, addressing a significant gap in the literature. Unlike prior studies, such as Allam (2019), which primarily focused on constructive journalism, a broader category encompassing solutions journalism, our research specifically zoomed in on solutions journalism.

Importantly, the mixed methods approach has been instrumental in spotting discrepancies in the findings in climate narratives and the perceived quality of local climate reporting, implying the intricate dynamics of the evolving landscape of climate change reporting. While interviews underscored the quality and variations in climate themes and inherent incorporation of true solutions journalism within local climate reporting, the quantitative content analysis yielded striking contrasting results. Nonetheless, these findings should be observed cautiously, considering that many interviewees are seasoned science journalists with over a decade of experience and extend their expertise beyond the six websites subject to our analysis. Although affiliated with local media outlets, many are collaborating with international and science-focused platforms that place a greater emphasis on the quality of climate change journalism. This recognition signifies the importance of considering the broader professional affiliations of our interviewees and the potential impact of their extensive experience on the observed variations in the data.

Overall, the evolution of climate journalism in Egypt and the UAE reflects a significant transformation from initial media dismissal to a recent heightened interest. The findings illuminated how resistance and lack of awareness within media organizations posed barriers to cultivating a widespread understanding of climate issues. Expectedly, hosting COP27 and COP28 acted as catalysts for delayed yet emerging media interest in climate change fed by official tendencies, signaling a recalibration of media priorities.

However, this interest proved temporary, evidenced by the editorial attention fluctuations across Egyptian and Emirati news websites. The Egyptian news media outlets showcased a pronounced focus on climate change during the first calendar quarter, coinciding with COP27, followed by significant declines in subsequent quarters. Meanwhile, Emirati outlets maintained

relatively stable coverage across quarters, with a notable peak in the fourth quarter coinciding with COP28 preparations. This trend is echoed by past research highlighting that climate reporting is notably influenced by high-profile political events, particularly the COP summits, where the participation of top political leaders acts as a substantial catalyst for heightened media attention (Abdellatif, 2023; Barkemeyer et al., 2017; Rhaman 2010). This underscores the impact of political dimensions on shaping climate coverage, leading to a more event-driven approach that potentially sidelines crucial scientific aspects of climate reporting. As such, The time-sensitive nature of this approach raises questions about the authenticity and depth of climate reporting. This observation further aligns with the overall inadequate coverage of climate themes in Egyptian and Emirati news media, revealing intriguing and potential gaps in reporting.

Although results highlighted significant differences between Egyptian and Emirati news websites in their dominant climate change frames, findings also emphasized some contextual similarities that shape editorial priorities. In both contexts, a predominant emphasis on governmental and inter-governmental activities is apparent, reflecting a shared editorial stance. However, the shared substantial lack of coverage of prominent climate change frames in Egyptian and Emirati outlets is noteworthy. Themes such as human interest, climate justice, attribution of responsibility, conflict, public accountability, and various other critical dimensions received modest attention, reflecting a collective oversight in addressing critical dimensions within the climate discourse. More specifically, the oversight of the climate justice frame within the climate change coverage of Egyptian and UAE news websites is striking, particularly given the crucial role of climate justice in COP negotiations. As two global South countries host COP27 and COP28, the significance of developing nations exerting pressure to achieve climate justice and hold the developed North accountable for their pledges is paramount. Climate justice

has traditionally been a core focus for Global South countries, recognizing their vulnerability to climate impacts and advocating for equitable solutions (Barnwell & Wood, 2022). Nonetheless, it should be noted that this finding resonates with past research, such as the work of Kamboh and Ittefaq (2022), who signaled inappropriate coverage of climate injustice themes in Pakistani newspapers in terms of quantity and quality alike.

The findings also align with prior research that attributed this insufficient coverage in global south countries partly to climate stories competing with a myriad of other issues for public attention, making them susceptible to being overlooked (Nassanga et al., 2016; Saleh, 2012). This competition for attention and limited resources contribute to the lack of comprehensive reporting on climate change. This sentiment is echoed in a body of research from similar contexts in Africa, where local journalists often perceive climate change stories as having limited market appeal and “do not sell,” resulting in lower priority within newsrooms (Nassanga, 2013).

Moreover, previous research has elucidated the impact of local geopolitical and economic contexts on climate change coverage in the global south. The media often aligns its role with the government's communication strategy, emphasizing state actions and framing climate change more as a policy matter than an inherently significant topic (Pan et al., 2019; Jia, 2017). In line with the findings, Nassanga et al. (2016) also identified insufficient climate literacy among journalists as another contextual factor contributing to superficial climate reporting. Media institutions and journalists often lack the necessary resources and essential training on climate-related issues, highlighting a capacity-building gap in Global South settings.

Regarding solutions journalism, while interviewees emphasized the importance of embracing this approach to address climate challenges, a notable scarcity of in-depth climate solutions coverage was observed on most selected Egyptian and Emirati news websites. This

reveals a gap in providing comprehensive responses to climate issues. Moreover, findings demonstrated journalists' caution about the editorial shift towards solutions journalism as it could be triggered by the political tendency to maintain a favorable image rather than to provide a comprehensive and objective account of issues. This sentiment is mirrored by Allam's (2019) observations, where Egyptian journalists emphasized challenges in the true implementation of constructive journalism, the overarching umbrella for solutions journalism, due to political power structures and potential misinterpretations of the approach, acknowledging the need for extensive capacity-building training for journalists to avoid reproducing the authoritarian narrative.

One notable implication of these findings is the notable gaps identified in the exploration of “evidence,” “insights,” and “limitations” when assessing the presentation of climate solutions. These disparities prompted concerns about the depth and potential optimism of the solution narrative. As pointed out by interviewees, one of the significant factors contributing to these gaps is the influence of positive journalism or the promotion of false hope. This influence is rooted in inherent restrictions on discussing negative aspects driven by the authoritarian local socio-political landscape. Journalists also explained that most reported solutions are either hypothetical or in the early stages, suggesting a lack of tangible impacts on the ground. This trend indeed challenges the authenticity and effectiveness of solutions journalism practices. Correspondingly, this resonates with the authoritarian tendencies that Badr (2020) cited as “trapped endurance,” severely undermining the journalists' freedom of expression. Journalists operating in authoritarian settings, unlike their counterparts in Western democracies, grapple with the constant need to censor critical reporting stemming from state repression, as indicated by media acquisition, media ownership concentration, and restrictive media laws (Medeiros &

Badr, 2022). As such, solutions journalism, which has predominantly developed in and for contexts in the Global North, necessitates a nuanced approach that considers the unique challenges and priorities of other contexts. Simultaneously addressing the gravity of the climate crisis and exploring potential remedies is essential for a more balanced approach, enlightening the public and fostering informed and responsible climate journalism in the Global South.

Along the same lines, journalists contend with self-censorship, wherein attributing problems to government policies or direct scrutiny of governmental blunders or policy shortcomings are often avoided. Furthermore, findings illuminated the profound impact of climate politicization on story selection and prioritization, revealing a preference for specific narratives influenced by the prevalent greenwashing practices of governments and corporations. This dynamic disrupts the seamless flow of information and substantially challenges journalistic integrity. Adding another layer to this complex interplay, journalists underscored that the repercussions of this politicization extend far beyond, creating a ripple effect that erodes public trust.

Much like insights from earlier studies underscored, there was a prevailing tendency for minimal reflection on the government's performance, resulting in superficial climate coverage in Egypt (Saleh, 2012). Furthermore, Abdelaziz et al. (2023) provided additional depth to this narrative, revealing positive coverage of climate change in Egyptian media, particularly emphasizing Egypt's pivotal role in hosting COP27 and accentuating Egypt's significance as a regional pioneer. This also resonates with recent reports from the UAE that flagshipged stringent guidelines for journalists covering climate change in light of COP28. The restrictions, delineated in the "Media Content Standards" by the UAE Media Regulatory Office, stressed avoiding anything deemed offensive to the ruling regime or national unity (Hiar, 2023). Such restrictions

could underscore broader media freedom concerns in the UAE and prompt critical questions about journalism's treatment in the Emirates during the COP28 conference and beyond, thereby shedding light on another intricate layer of challenges journalists face in pursuing unbiased reporting.

Transitioning to a different facet of the issue, the current state of climate journalism in Egypt and the UAE is closely tied to a lack of editorial interest across newsrooms. This lack of interest compounds challenges stemming from the absence of dedicated sections and reporters for climate or science journalism, where newsrooms often lack dedicated science reporters or, at best, assign only one reporter to cover this critical topic. This dearth of editorial commitment exacerbates the struggle for climate stories to secure prominence, relegating them to internal pages and hindering their visibility and impact. Compounded by desk editors' lack of a scientific background, this issue presents an additional challenge in elevating the profile of climate-related content. This lack of editorial interest is not an isolated observation; it resonates with past studies such as Matar (2020), which unveiled a consistent pattern across 15 Arab countries, including Egypt and the UAE. Matar's findings revealed that less than 10% of media outlets appoint a dedicated editor for environmental affairs and often prioritize advertisements or political and economic coverage over dedicated environmental pages.

Interestingly, several science and climate journalists in Egypt and the UAE reported their shift towards freelance journalism as a strategic response to overcome challenges within the local news media. Journalists cited the stifling traditional hierarchy in local newsrooms, emphasizing quantity over quality, as a motivation for their shift. This trend mirrors broader structural changes in science journalism observed globally, where economic constraints have led to the proliferation of freelance journalists (Anderson & Dudo, 2023). Even in Global North countries, when budget

cuts occur, specialized science reporters often bear the brunt of staffing reductions due to the specialized nature of their field. Consequently, science stories are often inadequately covered by reporters lacking the necessary expertise (Dunwoody, 2021). Although freelance journalism offers a pathway for journalists to escape constraints, allowing them to explore diverse perspectives and offer in-depth reporting, it comes with challenges. Issues such as publishing instability and delayed financial returns align with broader trends seen in the “gig economy of journalism,” where journalists are hired as freelancers with short-term contracts and no reliable compensation or professional backing from their media organizations (Anderson & Dudo, 2023; Dunwoody, 2021).

In essence, notable similarities emerged between Egypt and the UAE, highlighting shared challenges journalists face in pursuing quality climate reporting, including editorial disinterest, political sensitivities, and data scarcity. However, notable distinctions were also revealed, driven by the substantial funding and state prioritization of climate change issues in the UAE. Local media in the UAE incorporated dedicated sections for climate journalism in conjunction with COP28. This has allowed hiring specialist journalists, a luxury not easily afforded in the Egyptian media landscape. Nevertheless, it is crucial to acknowledge that even with these advantages, UAE journalists report other challenges, such as staffing issues, exemplified by Al-Khaleej's heavy reliance on wire services for over half of its climate stories. Additionally, most climate reporters at The National and Al-Ain are freelance journalists, raising concerns about the consistency and sustainability of their climate reporting.

Chapter Eight: Conclusion

This study is among the earliest studies in Egypt and the UAE, focusing on climate solutions journalism, addressing a crucial gap in the current literature. Employing a quantitative and qualitative mixed-methods approach, the research explored the climate change narratives of six prominent Egyptian and Emirati news websites, complemented by interviews with science and climate journalists in both countries.

The findings yielded valuable insights into solutions journalism's evolving and intricate state in local climate reporting, highlighting discrepancies between interviewees' perspectives and quantitative content analysis. Despite editorial attention fluctuations, the study revealed that local media exhibit insufficient and temporary climate coverage, marked by overseeing crucial climate themes. The findings resonate with broader challenges in climate journalism in the Global South, including competition for attention, limited resources, and inadequate climate literacy. Notably, solutions journalism, while recognized as crucial, faces gaps in its presentation, indicative of the influence of positive journalism and the politicization of climate reporting. The interplay of political sensitivities and editorial decision-making further obstructs the critical evaluation of climate solutions, contributing to a lack of in-depth reporting.

In essence, this study's implications offer a robust understanding of the landscape of climate journalism, emphasizing the need for context-specific strategies to navigate challenges effectively. The study underscores the imperative of local news media prioritizing a more inclusive and quality-centric approach in their climate reporting, ultimately informing and engaging the public. The findings contribute not only to a critical review of climate reporting but also facilitate a comparative analysis of how solutions journalism is applied across different

countries. This, in turn, could inform and guide a more practical approach to climate change reporting in the future, addressing the identified gaps and challenges.

Chapter Nine: Limitations and Future Research

While this study provides a comprehensive overview of climate reporting and solutions journalism through the triangulation of quantitative and qualitative methods, some limitations must be acknowledged. The first limitation pertains to the sampling strategy, which focused on six Egyptian and Emirati news websites. The exclusion of other local media and specialist climate websites might limit the overall representation of climate reporting in Egypt and the UAE. Future research could benefit from a more inclusive sampling approach encompassing a broader media outlet spectrum.

Along the same lines, while the linguistic emphasis on Arabic-based news websites was essential for a thorough analysis of content targeting Arab readers, a comparative analysis involving English-language media outlets would offer valuable insights into variations in climate change reporting. The National, the only English-language platform in our study, stood out, particularly regarding its solutions journalism presentation, compared to its Egyptian and Emirati counterparts. Accordingly, future research should incorporate a multilingual approach to capture diverse perspectives and investigate the role of language in shaping climate narratives and its impact on audience perceptions.

Additionally, the study's timeframe from October 2022 to September 2023 might not fully capture some relevant developments, particularly those occurring after September 2023, including during COP28. While the chosen timeframe aligns with the study's focus on exploring climate momentum between two consecutive COPs hosted by Arab countries, the potential for variations in Emirati media during COP28 should be considered.

It is also recommended that future research consider implementing filtration criteria to select predominantly in-depth and lengthy stories for analysis. Solutions journalism often thrives

in in-depth coverage, and such an approach could provide deeper insights into the incorporation of solutions journalism within climate narratives. However, applying such criteria might face challenges, as observed in this study, where several local media outlets predominantly featured short news reports, limiting the feasibility of additional filtration.

Furthermore, future research may delve into more comparative, descriptive, and audience effects studies to gain deeper insights into the effectiveness of climate reporting strategies. It is essential to highlight that climate reporting in the Arab world remains under-researched and under-investigated. By conducting in-depth studies on various Arab contexts and exploring diverse journalism engagement strategies, future research can contribute valuable knowledge to enhance climate communication in the Global South. This comprehensive understanding can inform the development of more targeted and impactful approaches to inform diverse audiences about climate issues.

References

- Abdelaziz, F., Ali, A., Elsayed, M., and Wadie, S., (2023). Egyptian Media Coverage of International Climate Politics: A Case: Study of COP27. *Journal of Media Research and Studies*. DOI: 10.21608/mjrm.2023.305408
- Abdellatif, M. A. M. (2023). Framing Climate Change on TV News Websites: A Study of Nile News, Sky News Arabia, and CGTN Arabic. Retrieved from <https://www.arabmediasociety.com/framing-climate-change-on-tv-news-websites-a-study-of-nile-news-sky-news-arabia-and-cgtn-arabic/>
- Abdelmalak, K. (2022). Public opinion and climate change. *Ahram Online*. Retrieved from <https://english.ahram.org.eg/NewsContent/50/1201/477681/AlAhram-Weekly/Egypt/Public-opinion-and-climate-change.aspx>
- Abdulla, R. (2014). *Egypt's Media in the Midst of Revolution* (Vol. 1). Washington, DC: Carnegie Endowment for International Peace.
- Abdulla, R. (2016). "Navigating the Boundaries Between State Television and Public Broadcasting in Pre- and Post-Revolution Egypt." *International Journal of Communication* 10: 4219–4238.
- Aitamurto, T. & Varma, A. (2018). The Constructive Role of Journalism, *Journalism Practice*, 12:6, 695-713, DOI: 10.1080/17512786.2018.1473041
- Al Amir, K., 2020. *Al Khaleej: Five decades of credible and committed journalism*. Retrieved October 30 from
- Al-Jaber, K., & Gunter, B. (2013). News Developments and Changes to News Consumption Patterns in the Arab World. In B. Gunter & R. Dickinson (Eds.), *News Media in the Arab*

- World: A Study of 10 Arab and Muslim Countries (pp. 135-152). New York, NY: Bloomsbury Publishing USA.
- Allam, R. (2018). Egypt: Media landscape. European Journalism Centre, 1-3. Retrieved from https://www.researchgate.net/profile/Rasha-Allam-2/publication/326572199_Egypt-Media_Landscape/links/5b56e49845851507a7c44256/Egypt-Media-Landscape.pdf
- Allam, R. (2019). Constructive Journalism in Arab Transitional Democracies: Perceptions, Attitudes and Performance. *Journalism Practice*, 13(10), 1273–1293. doi:10.1080/17512786.2019.1588145
- Allam, R. (n.d.). Egypt. Media Landscapes. Retrieved from <https://medialandscapes.org/country/egypt/media/digital-media>
- Al-Nimr, A. (1998). “The Role of Television Programs in Simplifying Sciences for Children.” Thesis. Cairo University,
- Anderson, J., & Dudo, A. (2023). *Science Communication*, 45(1), 39–64. doi:10.1177/10755470221149156
- Atanasova, D., (2022). How Constructive News Outlets Reported the Synergistic Effects of Climate Change and Covid-19 Through Metaphors. *Journalism Practice*. 16:2-3, 384-403, DOI: [10.1080/17512786.2021.1968311](https://doi.org/10.1080/17512786.2021.1968311)
- Ayish, M. (2021). 7. United Arab Emirates: Media for Sustainable Development. *Arab Media Systems*, 3.
- Bachleda, S., Neuner, F. G., Soroka, S., Guggenheim, L., Fournier, P., & Naurin, E. (2020). Individual-level differences in negativity biases in news selection. *Personality and Individual Differences*, 155, 109675. <https://doi.org/10.1016/j.paid.2019.109675>

- Badari, H. (2000). "How Egyptian Journalism Deals with Scientific Issues and its Effects on Readers' Scientific Knowledge." Thesis. Cairo University.
- Baden, D., McIntyre, K., & Homberg, F., (2019). The Impact of Constructive News on Affective and Behavioral Responses. *Journalism Studies*. 20:13, 1940-1959, DOI: [10.1080/1461670X.2018.1545599](https://doi.org/10.1080/1461670X.2018.1545599)
- Badr, H. (2020). Egypt's media system: historic legacies and blocked potentials for independent media. *Publizistik* 65, 63–79. <https://doi.org/10.1007/s11616-019-00537-8>
- Badr, H. (2020). From disruptive power to trapped endurance: Egypt's journalistic agency after the Tahrir Revolution. In *Critical Incidents in Journalism* (pp. 216-229). Routledge.
- Badr, H. (2021). 13. Egypt: A Divided and Restricted Media Landscape after the Transformation. *Arab media systems*, 3.
- Bansal, S., & Martin, C. (2015). The solutions journalism toolkit. *The Solutions Journalism Network*. Retrieved from <https://reedkath.files.wordpress.com/2017/04/new-sjn-toolkit-20162.pdf>
- Barkemeyer, R., Figge, F., Hoepner, A., Holt, D., Kraak, J. M., & Yu, P.-S. (2017). Media coverage of climate change: An international comparison. *Environment and Planning C: Politics and Space*, 35(6), 1029-1054. <https://doi.org/10.1177/0263774X16680818>
- Barnwell, G., & Wood, N. (2022). Climate justice is central to addressing the climate emergency's psychological consequences in the Global South: A narrative review. *South African Journal of Psychology*, 52(4), 486–497. doi:10.1177/00812463211073384
- Becker, Jonathan. 2004. "Lessons From Russia: A neo-Authoritarian Media System." *European Journal of Communication* 19 (2): 139–163. doi: 10.1177/0267323104042908

- Bendau A., Petzold M. B., Pyrkosch L., Mascarell Maricic L., Betzler F., Rogoll J., Große J., Ströhle A., Plag J. (2020). Associations between COVID-19-related media consumption and symptoms of anxiety, depression, and COVID-19-related fear in the general population in Germany. *European Archives of Psychiatry and Clinical Neuroscience*, 271, 283–291. <https://doi.org/10.1007/s00406-020-01171-6>
- Benesch, S. (1998). The rise of solutions journalism. *Columbia Journalism Review*, 36(6), 36+. <https://link.gale.com/apps/doc/A20426245/AONE?u=anon~ead715bf&sid=googleScholar&xid=95ef8252>
- Bennett, W. L., & Serrin, W. (2005). *The watchdog role* (Vol. 169). The press.
- Berglez, P., Olausson, U. & Ots, M. (2017), What is sustainable journalism? An Introduction. in P. Berglez, U. Olausson, & M. Ots (eds.), *What is Sustainable Journalism? Integrating the environmental, social, and economic challenges of journalism* (pp. xi-xxvi) New York: Peter Lang <https://doi.org/10.3726/b11462>
- Berkowitz, D. A. (Ed.). (1997). *Social meanings of news: A text-reader*. Thousand Oaks, CA: Sage Publications, Inc. retrieved from https://books.google.com.eg/books?hl=en&lr=&id=JV0XQUF-o6gC&oi=fnd&pg=PA1&dq=Berkowitz+1997&ots=D66nw-YdT0&sig=p2q2rtD7Z40Oj---uN04v14pfLs&redir_esc=y#v=onepage&q=Berkowitz%201997&f=false
- Bornstein, D., (2011). “Why ‘Solutions Journalism’ Matters, Too.” *The New York Times*. Retrieved March 15 from

https://opinionator.blogs.nytimes.com/2011/12/20/why-solutions-journalism-matters-too/?_r=0.

Bornstein, D. & Rosenberg, T. (2021). Opinion | If We Can Report on the Problem, We Can Report on the Solution. The New York Times. Retrieved 28 January 2023, from <https://www.nytimes.com/2021/11/11/opinion/fixes-solutions-journalism-lessons.html>

Brounéus, K. (2011). In-depth interviewing. *Understanding Peace Research: Methods and Challenges*, 130-45.

Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neville, A. J. (2014). The use of triangulation in qualitative research. *Oncology Nursing Forum*, 41(5), 545-547. <https://doi.org/10.1188/14.ONF.545-547>

Christians, C. G., Glasser, T., McQuail, D., Nordenstreng, K., & White, R. A. (2010). *Normative theories of the media: Journalism in democratic societies*. University of Illinois Press. Retrieved from https://books.google.com.eg/books?hl=en&lr=&id=jZAWo25gwY0C&oi=fnd&pg=PP1&ots=PZdws9QXy2&sig=smhPE-rORw39SH5hsNAXcwzyw9c&redir_esc=y#v=onepage&q&f=false

Colombo, S. (2018). Political and institutional transition in North Africa: Egypt and Tunisia in comparative perspective. Routledge.

Connolly-Ahern, C., Ahern, L. A., & Bortree, D. S. (2009). The Effectiveness of Stratified Constructed Week Sampling for Content Analysis of Electronic News Source Archives: AP Newswire, Business Wire, and PR Newswire. *Journalism & Mass Communication Quarterly*, 86(4), 862-883. <https://doi.org/10.1177/107769900908600409>

- Corner, A. (2011). Hidden heat: Communicating climate change in Uganda: Challenges and opportunities. Kampala: Panos Eastern Africa.
- Curry, A., Hammonds, K. (2014). The power of solutions journalism. Report Solutions Journalism Network and Engaging News Project. Retrieved from: https://mediaengagement.org/wp-content/uploads/2014/06/ENP_SJN-report.pdf
- Curry, A., Stroud, N. J., & McGregor, S. (2016). Solutions journalism and news engagement. Engaging News Project/Annette Strauss Institute for Civic Life at the University of Texas Austin. Retrieved from <https://mediaengagement.org/wp-content/uploads/2016/03/ENP-Solutions-Journalism-News-Engagement.pdf>
- Dahmen, N. S., Thier, K., & Walth, B. (2021). Creating engagement with solutions visuals: testing the effects of problem-oriented versus solution-oriented photojournalism. *Visual Communication*, 20(2), 271–288. <https://doi.org/10.1177/1470357219838601>
- Davies, C. L. (1999). Journalism, corporatism, democracy. *Media International Australia*, 90(1), 53-64. <https://doi.org/10.1177/1329878X9909000108>
- Dirikx, A., & Gelders, D. (2010). To frame is to explain: A deductive frame-analysis of Dutch and French climate change coverage during the annual UN Conferences of the Parties. *Public understanding of science*, 19(6), 732-742. doi:10.1177/0963662509352044
- Dunwoody, S. (2014). Science journalism. In *Routledge handbook of public communication of science and technology* (p. 27). London: Routledge.

- Dunwoody S. (2021). Science journalism: Prospects in the digital age. In Bucchi M., Trench B. (Eds.), *Routledge handbook of public communication of science and technology* (2nd ed., pp. 14–32). Routledge.
- Dyer, J. (2015). Is solutions journalism the solution? Nieman Reports. Retrieved from <http://niemanreports.org/articles/is-solutions-journalism-the-solution/>
- El-Awady, N. (2008). Challenges to science journalism: Egypt and the middle east. *SciDev.Net - Communication* Retrieved from <https://login.libproxy.aucegypt.edu/login?url=https://www.proquest.com/newspapers/challenges-science-journalism-egypt-middle-east/docview/2708576120/se-2>
- El Gody, A. (2016). Social Media Economy and its effect on Egyptian Media Institutions: The Case of Al Ahram. In *Seventh Saudi Association of Media and Communication*.
- Entman, R. (2007). Framing bias: Media in the distribution of power. *Journal of Communication*, 57(1), 163-173.
- Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43, 51-58.
- Entman, R. M. (2004). *Projections of power: Framing news, public opinion, and US foreign policy*. University of Chicago Press.
- Entman, R. M. (2005). The nature and sources of news (pp. 48-65). Oxford: Oxford University Press.
- Eskjær, M. F. (2017). Climate change communication in the Middle East and Arab countries. In *Oxford research encyclopedia of climate science*.

- Feldman L., Hart P. (2018a). Broadening exposure to climate change news? How framing and political orientation interact to influence selective exposure. *Journal of Communication*, 68(3), 503–524.
- Feldman L., Hart P. S. (2016). “Using Political Efficacy Messages to Increase Climate Activism: The Mediating Role of Emotions.” *Science Communication* 38(1):99–127.
- Feldman L., Hart P. S. (2018b). Is there any hope? How climate change news imagery and text influence audience emotions and support for climate mitigation policies. *Risk Analysis*, 38(3), 585–602.
- Ford J., King D. (2015). Coverage and framing of climate change adaptation in the media: A review of influential North American newspapers during 1993–2013. *Environmental Science and Policy*, 48, 137–146.
- Galtung, J. (2003). Peace journalism. *Media Asia*, 30(3), 177-180
<https://doi.org/10.1080/01296612.2003.11726720>
- Gibbs, J. (2023). Crime News in a Loyalist Press Environment. *Arab Media and Society*. Retrieved from <https://www.arabmediasociety.com/crime-news-in-a-loyalist-press-environment/>
- Gielan, Michelle, Brent Furl, and Jodie Jackson. 2017. *Solution-Focused News Increases Optimism, Empowerment and Connectedness to Community*. Institute for Applied Positive Research. Retrieved from <http://michellegielan.com/wp-content/uploads/2017/03/Solution-focused-News.pdf>.
- Goffman, E. (1974). *Frame analysis: An essay on the organization of experience*. New York: Harper & Row

- Grayson, R. (2021). *A New Era in Climate Change Coverage: Can Applying Solutions Journalism alter Audience Attitudes?*. [Honors thesis, Appalachian State University]
Retrieved from https://libres.uncg.edu/ir/asu/f/Rice_Grayson_Spring%202021_Thesis.pdf
- Guzman, A. L. (2015). Evolution of News Frames During the 2011 Egyptian Revolution: Critical Discourse Analysis of Fox News's and CNN's Framing of Protesters, Mubarak, and the Muslim Brotherhood. *Journalism & Mass Communication Quarterly*.
<https://doi.org/10.1177/1077699015606677>
- Hackett, R.A., Gunster, S. (2017). Journalism, Climate Communication and Media Alternatives. In: Brevini, B., Murdock, G. (eds) *Carbon Capitalism and Communication*. Palgrave Studies in Media and Environmental Communication. Palgrave Macmillan, Cham.
https://doi.org/10.1007/978-3-319-57876-7_14
- Haider, A. S. (2016). A corpus-assisted critical discourse analysis of the representation of Qaddafi in media: Evidence from Asharq Al-Awsat and Al-Khaleej newspapers. *International Journal of Linguistics and Communication*, 4(2), 11-29.
- Hamzawy, A., Al-Mailam, M., & Arkeh, J. (2023). Climate Change in Egypt: Opportunities and Obstacles. *Carnegie Endowment for International Peace*. Retrieved from <https://carnegieendowment.org/2023/10/26/climate-change-in-egypt-opportunities-and-obstacles-pub-90854#:~:text=By%202030%2C%20it%20is%20expected,percent%20increase%20in%20sixty%20years.>
- Hart, P. S., & Feldman, L. (2014). Threat Without Efficacy? Climate Change on U.S. Network News. *Science Communication*, 36(3), 325–351. doi:10.1177/1075547013520239

- Hart, P. S. (2011). One or many? The influence of episodic and thematic climate change frames on policy preferences and individual behavior change. *Science Communication*, 33(1), 28-51. DOI: 10.1177/1075547010366400
- Hepeng, J. (2020). Opinion: Why are there no climate sceptics in the Chinese media? Retrieved from <https://chinadialogue.net/en/climate/10287-opinion-why-are-there-no-climate-sceptics-in-the-chinese-media/>
- Hester, J. B., & Dougall, E. (2007). The efficiency of constructed week sampling for content analysis of online news. *Journalism & Mass Communication Quarterly*, 84(4), 811-824.
- Hiar, C., (2023). Don't offend monarchs, UAE tells reporters ahead of climate talks. Politico. Retrieved from <https://www.politico.com/news/2023/11/10/uae-reporters-un-climate-talks-00126584>
- Hossain, M. D., & Jaehnig, W. B. (2011). Social Responsibility of the Press in Developing and Western Countries. *Media Asia*, 38(4).
<https://gulfnews.com/uae/al-khaleej-five-decades-of-credible-and-committedjournalism-1.1603188884374>
- https://www.arabmediasociety.com/wp-content/uploads/2017/12/20100803112923_Reinisch_pdf.pdf
- Hunter, A. (2015). Crowdfunding independent and freelance journalism: Negotiating journalistic norms of autonomy and objectivity. *New Media & Society*, 17(2), 272-288. DOI: 10.1177/1461444814558915
- Hutchins Commission (1947) A Free and Responsible Press. Chicago, IL: University of Chicago Press.

- Is constructive journalism finally taking off?. (2016). WAN-IFRA. Retrieved 15 March 2023, from <https://wan-ifra.org/2016/01/is-constructive-journalism-finally-taking-off/>
- Iyengar, S. (1987). Television news and citizens' explanations of national affairs. *American Political Science Review*, 81(3), 815-831. doi:10.2307/1962678
- Iyengar, S. (1990). Framing responsibility for political issues: The case of poverty. *Political behavior*, 12, 19-40.
- Jenkins, J., & Nielsen, R. K. (2020). Proximity, public service, and popularity: A comparative study of how local journalists view quality news. *Journalism Studies*, 21(2), 236-253. <https://doi.org/10.1080/1461670X.2019.1636704>
- Jocelyn Nettlefold & Gretta T. Pecl (2022) Engaged Journalism and Climate Change: Lessons From an Audience-led, Locally Focused Australian Collaboration, *Journalism Practice*, 16:1, 19-34, DOI: [10.1080/17512786.2020.1798272](https://doi.org/10.1080/17512786.2020.1798272)
- Kamboh, S. A., & Ittefaq, M. (2022). Advocacy journalism and climate justice in a Global Southern country. *Local Environment*, 28(4), 412–432. doi:10.1080/13549839.2022.2155937
- Kathryn Thier & Tong Lin (2022) How Solutions Journalism Shapes Support for Collective Climate Change Adaptation, *Environmental Communication*, 16:8, 1027-1045, DOI: [10.1080/17524032.2022.2143842](https://doi.org/10.1080/17524032.2022.2143842)
- Kim, H., Jang, S. M., Kim, S.-H., & Wan, A. (2018). Evaluating Sampling Methods for Content Analysis of Twitter Data. *Social Media + Society*, 4(2). <https://doi.org/10.1177/2056305118772836>

- Kinnick, Katherine N., Dean M. Krugman, and Glen T. Cameron. 1996. "Compassion Fatigue: Communication and Burnout Toward Social Problems." *Journalism and Mass Communication Quarterly* 73: 687–707. <https://doi.org/10.1177/107769909607300314>
- Kleinnijenhuis A., van Hoof M. J., & Oegma D. (2006). Negative news and the sleeper effect of distrust. *Harvard International Journal of Press/politics*, 11(2), 86–104. <https://doi.org/10.1177/1081180X06286417>
- Lacy, S., Riffe, D., Stoddard, S., Martin, H., & Chang, K.-K. (2001). Sample Size for Newspaper Content Analysis in Multi-Year Studies. *Journalism & Mass Communication Quarterly*, 78(4), 836–845. <https://doi.org/10.1177/107769900107800414>
- Lasswell, H. D. (1948). The structure and function of communication in society. *The communication of ideas*, 37(1), 136-139.
- Lengauer, G., Esser, F., & Berganza, R. (2012). Negativity in political news: A review of concepts, operationalizations and key findings. *Journalism*, 13(2), 179-202. DOI: 10.1177/1464884911427800
- Lindlof, T. R., & Taylor, B. C. (2019). *Qualitative communication research methods* (Fourth ed.). SAGE Publications, Inc.
- Loizzo, J., Watson, S. L., & Watson, W. R. (2018). Examining Instructor and Learner Experiences and Attitude Change in a Journalism for Social Change Massive Open Online Course: A Mixed-Methods Case Study. *Journalism & Mass Communication Educator*, 73(4), 392–409. <https://doi.org/10.1177/1077695817729586>

- Lough, K., & Ashe, I. (2021). Journalism's visual construction of place in environmental coverage. *Newspaper Research Journal*, 42(2), 253-269. <https://doi.org/10.1177/07395329211018527>
- Lough, K., & McIntyre, K. (2018). Journalists' perceptions of solutions journalism and its place in the field. *ISOJ Journal*, 8(1), 33-52. Retrieved from <https://lirias.kuleuven.be/retrieve/514417#page=34>
- Lough, K., & McIntyre, K. (2021a). A systematic review of constructive and solutions journalism research. *Journalism*, 0(0). <https://doi.org/10.1177/14648849211044559>
- Lough K. & McIntyre K. (2021b). Transitioning to Solutions Journalism: One Newsroom's Shift to Solutions-focused Reporting. *Journalism Studies*. 22:2, 193-208, DOI: 10.1080/1461670X.2020.1843065
- Luke, D. A., Caburnay, C. A., & Cohen, E. L. (2011). Communication Methods and Measures, 5(1), 76–91. doi:10.1080/19312458.2010.547823
- Mansour, S. (2015). Stifling the public sphere: Media and civil society in Egypt. *Media and civil society in Egypt, Russia, and Vietnam*, 11.
- Massey, B., (1998). Civic journalism and non elite sourcing: Making routine newswork of community connectedness. *Journalism and Mass Communication Quarterly* 2: 394–407. <https://doi.org/10.1177/107769909807500213>
- Matar, S. (2020). Media coverage, environmental issues, and sustainable development in the UAE. *International Journal of Innovation, Creativity and Change*, 12(6), 2020.

McGregor S. C., Stroud N. J. (2016). How one community responded to solutions journalism.
Engaging News Project.

<https://mediaengagement.org/wp-content/uploads/2016/09/ENP-How-One-Community-Responded-to-Solutions-Journalism.pdf>

McIntyre, K., & Gyldensted, C. (2018). Constructive journalism: An introduction and practical guide for applying positive psychology techniques to news production. *The journal of media innovations*, 4(2), 20-34. <https://doi.org/10.5617/jomi.v4i2.2403>

McIntyre, K., & Sobel, M. (2017). Motivating news audiences: Shock them or provide them with solutions? *Communication & Society*, 30(1), 39-56.
doi:<https://doi.org/10.15581/003.30.1.39-56>

McIntyre, K., Dahmen, N. S., & Abdenour, J. (2018). The contextualist function: US newspaper journalists value social responsibility. *Journalism*, 19(12), 1657-1675.
<https://doi.org/10.1177/1464884916683553>

McIntyre, K., Lough, K., & Manzanares, K. (2018). Solutions in the shadows: The effects of photo and text congruency in solutions journalism news stories. *Journalism & Mass Communication Quarterly*, 95(4), 971-989. <https://doi.org/10.1177/107769901876764>

McIntyre, K. (2019). Solutions journalism: The effects of including solution information in news stories about social problems. *Journalism Practice*, 13(1), 16-34.
<https://doi.org/10.1080/17512786.2017.1409647>.

- McIntyre, K. E., & Lough, K. (2021). Toward a clearer conceptualization and operationalization of solutions journalism. *Journalism*, 22(6), 1558-1573. <https://doi.org/10.1177/1464884918820756>
- McIntyre, K. E. (2015). Constructive journalism: The effects of positive emotions and solution information in news stories (Doctoral dissertation, The University of North Carolina at Chapel Hill). Retrieved 21 January 2023, from <https://www.proquest.com/docview/1684781835?pq-origsite=gscholar&fromopenview=true>
- Medeiros, D., & Badr, H. (2022). Strengthening journalism from the margins: Engaged journalism in Brazil and Egypt. *Digital Journalism*, 10(8), 1342-1362.
- Media Regulation. (n.d.). The United Arab Emirates' Government portal. Retrieved from <https://u.ae/en/media/media-in-the-uae/media-regulation>
- Mellado, C., & Lagos, C. (2014). Professional Roles in News Content: Analyzing journalistic performance in the Chilean national press. *International Journal of Communication* 8: 2090- 2112.
- MENA leading news politics websites 2015. (2015). Statista. <https://www.statista.com/statistics/604258/leading-news-and-politics-websites-mena-by-share-of-traffic/>
- Metag, J. (2016). Content analysis in climate change communication. In Oxford research encyclopedia of climate science. <https://doi.org/10.1093/acrefore/9780190228620.013.486>
- Midberry, J., & Dahmen, N. S. (2017). Picturing the solution? An analysis of visuals in solutions journalism. In Newspaper & online news division, annual conference of the association for education in journalism and mass communication.

- Minjie, Li., (2021). The Synergistic Effects of Solutions Journalism and Corporate Social Responsibility Advertising. *Digital Journalism*. 9:3, 336-363. DOI: [10.1080/21670811.2020.1840407](https://doi.org/10.1080/21670811.2020.1840407)
- Molotch, Harvey, and Marilyn Lester. 1974. "News as Purposive Behavior: On the Strategic use of Routine Events, Accidents, and Scandals." *American Sociological Review* 39 (1): 101–112.
- Most Visited Newspapers Websites in Egypt 2023: Open .Trends. (n.d.). Retrieved from <https://www.semrush.com/trending-websites/eg/newspapers>
- Nassanga, G., Eide, E., Hahn, O., Rhaman, M., & Sarwono, B. (2016). Climate Change and Development Journalism in the Global South. *Media And Global Climate Knowledge*, 213-233. DOI: 10.1057/978-1-137-52321-1_10
- Nassanga, G. L. (2013). African media and the global climate change discourse: Implications for sustainable development. *Open Science Repository Communication and Journalism*, 1–17. doi:10.7392/openaccess.23050451.
- Neuendorf, KA. (2002). *The Content Analysis Guidebook*. Thousand Oaks, CA: SAGE.
- Newman, N., Fletcher, R., Kalogeropoulos, A., Nielsen, R. (2019) *Reuters Institute Digital News Report 2019*. Retrieved from https://reutersinstitute.politics.ox.ac.uk/sites/default/files/2019-06/DNR_2019_FINAL_0.pdf
- Nisbet, M. C. (2009). Communicating climate change: Why frames matter for public engagement. *Environment: Science and policy for sustainable development*, 51(2), 12-23. <https://doi.org/10.3200/ENVT.51.2.12-23>

- Nisbet, M. C. (2019). The Trouble With Climate Emergency Journalism. *Issues in Science and Technology*. 35(4), 23–26. <https://www.jstor.org/stable/26949044>
- Niven D. (2001). Bias in the news: Partisanship and negativity in media coverage of presidents George Bush and Bill Clinton. *International Journal of Press/Politics* 6(3): 31–46
- Olausson U., Berglez P. (2014). Media and climate change: Four longstanding research challenges revisited. *Environmental Communication*, 8(2), 249–265.
- Olteanu, A., Castillo, C., Diakopoulos, N., & Aberer, K. (2015). Comparing events coverage in online news and social media: The case of climate change. In *Proceedings of the international AAAI conference on web and social media* (Vol. 9, No. 1, pp. 288-297).
- Overgaard, C. S. B. (2021). Mitigating the consequences of negative news: How constructive journalism enhances self-efficacy and news credibility. *Journalism*, 146488492110627. <https://doi.org/10.1177/14648849211062738>
- Owen, W. F. (1984). Interpretive themes in relational communication. *Quarterly Journal of*
- O'Neill, S., Williams, H. T., Kurz, T., Wiersma, B., & Boykoff, M. (2015). Dominant frames in legacy and social media coverage of the IPCC Fifth Assessment Report. *Nature climate change*, 5(4), 380-385.
- Painter, J., Kristiansen, S., & Schäfer, M. S. (2018). How ‘digital-born’ media cover climate change in comparison to legacy media: A case study of the COP 21 summit in Paris. *Global environmental change*, 48, 1-10.
- Pan, Y., Opgenhaffen, M., & Van Gorp, B. (2019). Public Understanding of Science, 28(5), 519–533. doi:10.1177/0963662518823969

- Patton, M. Q. (1999). Enhancing the quality and credibility of qualitative analysis. *Health services research*, 34(5 Pt 2), 1189.
- Pew Research Center. (2021). Local TV News Fact Sheet. Retrieved 6 April 2023, from <https://www.pewresearch.org/journalism/fact-sheet/local-tv-news/>
- Powers, E. & Curry, A. (2019) NO QUICK FIX: How Journalists Assess the Impact and Define the Boundaries of Solutions Journalism, *Journalism Studies*, 20:15, 2237-2257, DOI: [10.1080/1461670X.2019.1586565](https://doi.org/10.1080/1461670X.2019.1586565)
- Rahma, F., (2018). Sheikh Zayed And A Sustainable Legacy. *The Gazelle*. Retrieved from <https://www.thegazelle.org/issue/148/sheikh-zayed-and-a-sustainable-legacy>
- Rahman, M. (2010). Bangladesh: A metaphor for the world. In E. Eide, R. Kunelius, & V. Kumpu (Eds.), *Global climate, local journalism: A transnational study of how media make sense of climate change* (pp. 67–81). Freiburg: Projekt Verlag.
- Rani R. (2016). What we know — and still don't know — about what solutions journalism can do. *The Whole Story*. Retrieved 21 November 2022, from <https://thewholestory.solutionsjournalism.org/what-we-know-and-still-dont-know-about-what-solutions-journalism-can-do-507fff777126>
- Rao, S., & Weerasinghe, P. N. (2011). Covering terrorism: Examining social responsibility in South Asian journalism. *Journalism Practice*, 5(4), 414-428.
- Reinisch, L. (2010). Environmental journalism in UAE. *Arab Media & Society*, 11, 1-19. Retrieved from
- Reporters Without Border RSF (2023a). “Media Ownership Monitor: Egypt.” <https://egypt.mom-rsf.org/en/owners/companies/>

- Reporters Without Borders RSF. (2023b) Retrieved from <https://rsf.org/en/country/united-arab-emirates#:~:text=The%20country's%20leading%20daily%20in,the%20Abu%20Dhabi%20Media%20group>.
- Rice, G., (2021). A NEW ERA IN CLIMATE CHANGE COVERAGE: CAN APPLYING SOLUTIONS JOURNALISM ALTER AUDIENCE ATTITUDES? Appalachian State University. Retrieved from https://libres.uncg.edu/ir/asu/f/Rice_Grayson_Spring%202021_Thesis.pdf
- Rice, G. J. (2021). A New Era in Climate Change Coverage: Can Applying Solutions Journalism Alter Audience Attitudes? (Doctoral dissertation, Appalachian State University). Retrieved 16 November 2022, from https://libres.uncg.edu/ir/asu/f/Rice_Grayson_Spring%202021_Thesis.pdf
- Riffe, D., Lacy, S., & Fico, F. (2014). Analyzing media messages: Using quantitative content analysis in research (Third edition). Routledge/Taylor & Francis Group.
- Riffe D., Aust C. F., Lacy S. R. (1993). The effectiveness of random, consecutive day and constructed week sampling in newspaper content analysis. *Journalism Quarterly*, 70(1), 133–139.
- Robinson, S., & Mendelson, A. L. (2012). A qualitative experiment: Research on mediated meaning construction using a hybrid approach. *Journal of Mixed Methods Research*, 6(4), 332-347.
- Rosenstiel, T., (2014). Reporting ‘the whole story’: 9 good questions with David Bornstein of Solutions Journalism Network. American Press Institute. Retrieved March 15 from <https://www.americanpressinstitute.org/publications/good-questions/moving-toward-whole-story-9-good-questions-david-bornstein-solutions-journalism-network/>

- Rugh, W.A. 2004. Arab Mass Media: Newspapers, Radio, and Television in Arab Politics. Westport, CT: Praeger.
- Saleh, I. (2012). Ups and downs from Cape to Cairo: The journalistic practice of climate change in Africa. *Media meets climate: The global challenge for journalism*, 49-65.
- Saleh, S. (2023). MENA: value of media market by selected country. Retrieved from <https://www.statista.com/statistics/1336562/mena-value-of-the-media-market-by-selected-country/>
- Schäfer, M. S., O'Neill, S., Nisbet, M., Ho, S., Markowitz, E., & Thaker, J. (2017). Frame analysis in climate change communication: approaches for assessing journalists' minds, online communication and media portrayals
- Schäfer M. S., Schlichting I. (2014). Media representations of climate change: A meta-analysis of the research field. *Environmental Communication*, 8(2), 142–160.
- Schaffer, J., (2016). Making a case for new taxonomies in journalism. *Teaching Media Entrepreneurship*. Retrieved from, <https://medium.com/teaching-media-entrepreneurship/making-a-case-for-new-taxonomies-in-journalism-171dabb63e11>
- Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of communication*, 49(1), 103-122. <https://doi.org/10.1111/j.1460-2466.1999.tb02784.x>
- Schudson, M. (2011). What's unusual about covering politics as usual. In *Journalism after September 11* (pp. 44-54). Routledge.
- Seaton, J. (2005). *Carnage and the media: The making and breaking of news about violence*. Allen Lane.

Seelig, M. I., Deng, H., & Liang, S. (2022). A frame analysis of climate change solutions in legacy news and digital media. *Newspaper Research Journal*, 43(4), 370–388. doi:10.1177/07395329221112391

Shafi, N. (2020). Arab Youth Climate Movement Qatar. *Journal of Wilderness*. Retrieved from <https://ijw.org/arab-youth-climate-movement-qatar/>

Siebert FS, Peterson T, Schramm W (1956) *Four Theories of the Press: The Authoritarian, Libertarian, Social Responsibility, and Soviet Communist Concepts of What the Press Should Be and Do*. Champaign, IL: University of Illinois Press.

Similar Web (N.d.). Retrieved from https://pro.similarweb.com/#/digitalsuite/markets/webmarketanalysis/mapping/News_and_Media/818/3m?webSource=Total

Similarweb (N.d.). Retrieved Oct 30, 2023 from https://pro.similarweb.com/#/digitalsuite/websiteanalysis/overview/website-performance/*/999/3m?webSource=Total&key=alkhaleej.ae

Skovsgaard, M., & Andersen, K., (2020). Conceptualizing News Avoidance: Towards a Shared Understanding of Different Causes and Potential Solutions, *Journalism Studies*, 21:4, 459-476, DOI: [10.1080/1461670X.2019.1686410](https://doi.org/10.1080/1461670X.2019.1686410)

Solutions Journalism: What is it and why should I care?. (2020). Retrieved 18 November 2022, from <https://thewholestory.solutionsjournalism.org/solutions-journalism-what-is-it-and-why-should-i-care-e5acd0ab5332>

Solutions Journalism Network. (2016). Solutions Journalism Imposters. The Whole Story. Retrieved 16 March 2023, from <https://thewholestory.solutionsjournalism.org/solutions-journalism-imposters-c4cf72a9354b>

Solutions Journalism Network. (n.d.a). Retrieved 16 November 2022, from <https://www.solutionsjournalism.org/>

Solutions Journalism Network. (n.d.b). Retrieved 5 April 2023, from <https://www.solutionsjournalism.org/about/solutionsjournalism>

Solutions Journalism Toolkit (n.d.). Learning Lab. Retrieved from: <https://learninglab.solutionsjournalism.org/en/courses/basic-toolkit/introduction/welcome>

Solutions Story Tracker. (n.d.). Retrieved 5 April 2023, from <https://www.solutionsjournalism.org/storytracker>

Song, Y., & Chang, T.-K. (2012). SELECTING DAILY NEWSPAPERS FOR CONTENT ANALYSIS IN CHINA. *Journalism Studies*, 13(3), 356–369. doi:10.1080/1461670x.2011.605594

Speech, 70, 274–287. doi:10.1080/00335638409383697

SPJ. (2014, September 6) Society of Professional Journalists. Retrieved 18 March 2023, from <https://www.spj.org/ethicscode.asp>

Stempel G. H. (1952). Sample size for classifying subject matter in dailies. *Journalism Quarterly*, 29(3), 333–334

- Stoddart, M. C., Haluza-DeLay, R., & Tindall, D. B. (2016). Canadian news media coverage of climate change: historical trajectories, dominant frames, and international comparisons. *Society & Natural Resources*, 29(2), 218-232.
- Szabo, A., Hopkinson, K.L. Negative psychological effects of watching the news in the television: Relaxation or another intervention may be needed to buffer them!. *Int. J. Behav. Med.* 14, 57–62 (2007). <https://doi.org/10.1007/BF03004169>
- TEDx Talks. (2014, September 15). *The positive future of journalism | Seán Dagan Wood | TEDxSussexUniversity* [Video]. YouTube. <https://www.youtube.com/watch?v=zPy0xnymGR0>
- Theodora, L., & Prestianta, A. (2022). Measuring Constructive Journalism in Kompas.com's Climate Change Articles. *Jurnal ASPIKOM*, 7(2), 95. doi: 10.24329/aspikom.v7i2.1128
- Thier, K., & Namkoong, K. (2023). Identifying Major Components of Solutions-Oriented Journalism: A Review to Guide Future Research. *Journalism Studies*, 24(12), 1557-1574.
- Thier, K., & Namkoong, K. (2023). Identifying Major Components of Solutions-Oriented Journalism: A Review to Guide Future Research. *Journalism Studies*, 24(12), 1557-1574.
- Thier, K., Abdenour, J., Walth, B., & Dahmen, N. S. (2021). A narrative solution: The relationship between solutions journalism, narrative transportation, and news trust. *Journalism*, 22(10), 2511–2530. <https://doi.org/10.1177/1464884919876369>
- Thier, K. (2016). Opportunities and Challenges for Initial Implementation of Solutions Journalism Coursework. *Journalism & Mass Communication Educator*, 71(3), 329–343. <https://doi.org/10.1177/1077695816666078>

Trussler, M., & Soroka, S. (2014). Consumer Demand for Cynical and Negative News Frames. *The International Journal of Press/Politics*, 19(3), 360–379. <https://doi.org/10.1177/1940161214524832>

Tuchman, G. (1978) *Making news: A study in the construction of reality*. New York, NY: The Free Press.

United Media Services (UMS). (N.d.). Retrieved from <https://ums.com.eg/>

United Nations Climate Change. (n.d.). What do adaptation to climate change and climate resilience mean? Retrieved from <https://unfccc.int/topics/adaptation-and-resilience/the-big-picture/what-do-adaptation-to-climate-change-and-climate-resilience-mean>

Usury, A. (2022) *Solutions Journalism: How Its Evolving Definition, Practice and Perceived Impact Affects Underrepresented Communities*, Journalism Practice, DOI: [10.1080/17512786.2022.2142836](https://doi.org/10.1080/17512786.2022.2142836)

Vliegenthart, R., Boomgaarden, H.G., Boumans, J.W. (2011). Changes in Political News Coverage: Personalization, Conflict and Negativity in British and Dutch Newspapers. In: Brants, K., Voltmer, K. (eds) *Political Communication in Postmodern Democracy*. Palgrave Macmillan, London. https://doi.org/10.1057/9780230294783_6

Waisbord, S. (2013). *Reinventing professionalism: Journalism and news in global perspective*. John Wiley & Sons. Retrieved from https://books.google.com.eg/books?hl=en&lr=&id=-W6TAAAAQBAJ&oi=fnd&pg=PT6&dq=Waisbord+2013+journalism&ots=hFBAPoTVUd&sig=Q6ga2OaOYFHaUcA6d5-DysDn0hY&redir_esc=y#v=onepage&q=Waisbord%202013%20journalism&f=false

- Weaver, D. H. (2007), Thoughts on Agenda Setting, Framing, and Priming. *Journal of Communication*, 57: 142–147. doi:10.1111/j.1460-2466.2006.00333.x
- Webb, L. (2017). Online research methods, qualitative. *The International Encyclopedia of Communication Research Methods*, 1339-1346.
- Wenzel, A., Gerson, D., & Moreno, E. (2016). Engaging Communities Through Solutions Journalism. The Tow Center for Digital Journalism. Retrieved 21 January 2023, from https://www.cjr.org/tow_center_reports/engaging_communities_through_solutions_journalism.php# Citations
- Wenzel, A., Gerson, D., Moreno, E., Son, M., & Morrison Hawkins, B. (2018). Engaging stigmatized communities through solutions journalism: Residents of South Los Angeles respond. *Journalism*, 19(5), 649-667. <https://doi.org/10.1177/1464884917703125>
- World Bank Climate Change Knowledge Portal. (n.d.). Retrieved from <https://climateknowledgeportal.worldbank.org/country/united-arab-emirates>
- Zahay M. L., Jensen K., Xia Y., Robinson S. (2021). The labor of building trust: Traditional and engagement discourses for practicing journalism in a digital age. *Journalism & Mass Communication Quarterly*, 98(4), 1041–1058. <https://doi.org/10.1177/1077699020954854>
- Zamith, R., Pinto, J., & Villar, M. E. (2012). Constructing climate change in the Americas: An analysis of news coverage in the U.S. and South American newspapers. *Science Communication*, 35(3), 334–357.
- Zhao, X., Jackson, D., & Nguyen, A., (2022). The Psychological Empowerment Potential of Solutions Journalism: Perspectives from Pandemic News Users in the UK. *Journalism Studies*. 23:3, 356-373. DOI: [10.1080/1461670X.2021.2023324](https://doi.org/10.1080/1461670X.2021.2023324)

APPENDIX I: Coding Sheet & Operating Definitions

This codebook is developed using climate change frames identified and validated in past research (e.g., Hart & Feldman, 2014; Lough & Ashe, 2021; Nisbet, 2009; Painter et al., 2018; Terracina-Hartman, 2019).

Coding sections

- Identifying information
- Climate frames
- Solution frame:

A. Identifying Information

1.1. Insert Story link

1.2. News Website

1. (EG) Al-Ahram
2. (EG) Youm7
3. (EG) AlMasry Al-Youm
4. (UAE) Al-Khaleej
5. (UAE) Al-Ain News
6. (UAE) The National

1.3 Date of publishing

- (select from the dropdown menu)

1.4 Originality: Source of article

- Written by internal staff
- By wire services
- Not clear

1.5 Format of the visual

1. Image
2. Video
3. Illustration
4. No visuals
5. Both video and image

1.6 Events Related To

1. COP27
2. COP28
3. Not applicable

4. Both COP27 and COP28

B. 1- Dominant Climate Change Frames:

(When more than one topic could fit into a single story, the most prominent topic, that is, the one that was allocated the most space, was selected.)

1. **Human interest:** Stories focus on human or emotional angles by highlighting the impact of climate change on individuals and communities.
2. **Conflict:** Stories reflect the power struggle and disagreement between politicians, individuals, and stakeholder groups in relation to addressing climate change.
3. **Morality:** Stories highlight moral, ethical, or religious calls to take action on climate change and protect the most vulnerable communities.
4. **Attribution of responsibility:** Stories suggest that either the government, an individual, or a group bears responsibility for the issue or problem at hand.
5. **Economic progress:** Stories advocate economic investment in strengthening or broadening an eco-friendly economy.
6. **Economic Consequences:** Stories highlight the prospective economic consequences of climate change and the ways in which it can impact investments, markets, and potential economic measures.
7. **National security:** Stories emphasize the potential threats of climate change to national security or displacement of populations.
8. **Health:** Stories revolve around the health repercussions of climate change like asthma, allergies, and malnutrition, among others.
9. **Food security:** Stories emphasize the possible effects of climate change on food availability, particularly for marginalized groups, arising from reduced yields or increased prices.
10. **Disasters or catastrophes:** Stories spotlight the anticipated significant risks of climate change to diverse aspects of life, emphasizing disasters like extreme weather events, rising sea levels, and water shortages.
11. **Public accountability:** Stories highlight the accountability of various organizations to the public, probing whether their actions prioritize the public welfare or cater to private interests.
12. **Settled Science:** Stories underscore the scientific aspects of climate change, engaging in dialogues with scientists and experts to clarify doubts and uncertainties about climate change.
13. **Hope:** The primary theme and tone center on optimism and reflect a deep desire for improvement and a belief in the feasibility of positive changes.
14. **Negotiations:** Stories feature analysis, descriptions, and interpretations of the negotiation process, exploring whether the outcomes of COP27 and COP28 were successful or not.

- 15. climate justice:** Stories revolve around the responsibilities of various countries or stakeholders, addressing the need for equitable distribution concerning mitigation, adaptation, or alleviation of climate impacts.
- 16. Governmental and inter-governmental activities:** Media coverage of governmental activities and inter-governmental entities like the United Nations.
Stories may include
1. Legal actions, legislations, policies, international agreements, executive actions, and police arrests.
 2. Publications, studies, and research: such as government-sponsored studies, inter-government reports, and public surveys.
 3. Meetings, conferences, IPCC meetings, and other inter-governmental gatherings.
 4. Other activities: such as campaigns, statements, and notable government initiatives.
- 17. Groups, NGOs, and universities activities:** Media coverage encompasses:
1. Legal actions by NGOs.
 2. Publications, studies, and research: such as NGO-sponsored studies, and reports.
 3. Other activities: such as campaigns, statements, and notable initiatives by non-governmental organizations.
- 18. Solution:** Stories offer solutions to the identified problem or issue.

C. Climate Solution Theme

1- Filtration question: Is the story information-rich” in reporting climate solutions?

1. Yes, the story is information-rich in reporting climate solutions.
2. No, the story mainly only reports on climate causes and impacts.

2- Solutions to address climate change:

1. **Adaption:** efforts to prepare for and cope with the repercussions of climate change
2. **Mitigation:** initiatives to limit or decrease the factors contributing to climate change and alleviate future consequences.

3-1 Type of Solution being discussed, differentiating between:

1. **Individual:** Personal behavioral efforts such as conserving energy, recycling, and buying local products.
2. Personal political engagement or activism: like voting, protesting, or contacting elected officials.
3. **Business and technology:** for instance, creating alternative energy sources and developing vehicles with improved fuel efficiency.
4. **Governmental or policy measures:** such as regulating emissions, introducing alternative energy, and implementing carbon taxes.

3.2- Type of Solution (short-term/long-term solution)

1. **Short-term:** actions or initiatives that yield prompt results and address the issue at hand.
2. **Long-term:** efforts that require time to implement and have lasting future effects.

4- Solution target:

1. Water, oceans
2. endangered species and ecosystems
3. environmental policy
4. air pollution,
5. energy
6. Plastic
7. Education and training
8. Food
9. Waste
10. Transportation
11. Health
12. Land development
13. Toxic chemicals
14. Sustainability
15. Global warming.

5- Location of response (where the solution has been implemented)

1. Egypt
2. United Arab Emirates
3. Other Arab & Muslim world
4. An African country
5. International developed world (e.g., United States, Europe, Australia, and Asia)
6. Other

6- Efficacy information: whether the article includes explicit information related to

1. **Self-efficacy:** Self-efficacy pertains to the ease or difficulty individuals experience in taking personal steps to address climate change.
2. **External efficacy:** focuses on the responsiveness of “powerful others,” such as politicians and businesses, to public calls for action.
3. **Response efficacy:** emphasizes how actions addressing climate change will effectively reduce the threat.
4. **Not applicable.**

7- Evaluate the solution presentation: Does the solution story include the four pillars of solutions journalism (select all that apply)

1. **Response:** The focus is on addressing a social problem and evaluating the success or failure of the response.
2. **Evidence:** quantitative or qualitative demonstrating the effectiveness or ineffectiveness of a given approach.
3. **Limitations:** Provide context by elucidating the shortcomings of the solution.
4. **Insight:** How the solution could be relevant and accessible to other contexts..

APPENDIX 2: Interview Guide

1- The English Version

Demographics Questions

- Gender
- Age
- Educational level
- Years of professional experience in journalism
- Title and Organization

General: Solutions Journalism Practices:

1. Can you describe your approach to solutions journalism?
2. What inspired you to pursue solutions journalism, and how do you define it?
3. Could you share examples of solutions-focused stories or projects you've worked on?

Objective 1: To identify the prominent themes in climate change coverage.

4. Can you describe the key themes or topics most commonly covered in your climate change reporting?
5. Are there any specific case studies or projects related to climate change reporting that you have been involved in and would like to discuss?
6. Are there specific climate-related issues or topics you feel received more media attention? If so, could you provide examples?

Objective 2: To investigate the use of solutions journalism in climate change coverage:

7. Have you encountered solutions-focused climate change reporting? If yes, could you share some of these examples?
8. How influential is solutions journalism in engaging and informing the audience about climate change issues?

Objective 3: To assess the practices of solutions and environmental journalists.

9. Can you describe your approach to reporting on climate change from a solutions lens?
10. How do you decide which climate-related stories to cover from a solutions perspective?
11. How do you measure the impact of your solutions-focused reporting on local communities? Have you noticed any audience feedback on solutions-focused climate change reporting?

Objective 4: To identify journalists' challenges in reporting climate change from a solutions lens.

12. What obstacles or difficulties do you face in sourcing and producing solutions-focused climate change stories?
13. How do you balance reporting positive responses to climate change and addressing the potential negative impacts and challenges?
14. To what extent do you think the politicization of climate change affects media coverage? Does it impact the framing or tone of climate change reporting?

15. In your opinion, how can the practice of solutions journalism in climate change reporting be improved or expanded?

Contextual Questions: COP27 and COP28 Media Coverage

16. How would you describe the overall media coverage and public attention surrounding COP27 and COP28?
17. Were there any distinctive features or themes in the media coverage?
18. Were there specific media outreach efforts to educate the public about climate change?
19. What challenges did local and regional media face in covering COP27 and COP28, and how did they overcome them?
20. What opportunities did hosting these COP events bring to the region regarding media exposure and climate action?

2-The Arabic Version

المعلومات الديموغرافية

- جنس
 - عمر
 - المستوى التعليمي
 - عدد سنوات الخبرة المهنية في مجال الصحافة
 - اللقب الوظيفي والمؤسسة لصحفية
- أسئلة عامة: ممارسات صحافة الحلول:**

1. هل يمكنك وصف نهجك الصحفي في صحافة الحلول؟
 2. ما الذي ألهمك لممارسة صحافة الحلول؟
 3. هل يمكنك مشاركة أمثلة على القصص أو المشاريع قمت بها تركز على صحافة الحلول؟
- الهدف 1: تحديد المواضيع البارزة في تغطية تغير المناخ:**
4. هل يمكنك وصف الموضوعات الرئيسية أو الأكثر شيوعاً التي يتم تناولها في تقارير تغير المناخ؟
 5. هل هناك أي مشاريع صحفية تتعلق بالإبلاغ عن تغير المناخ شاركت فيها وترغب في مناقشتها؟
 6. هل هناك قضايا أو مواضيع محددة تتعلق بالمناخ تشعر أنها حظيت باهتمام إعلامي أكبر؟ إذا كان الأمر كذلك، هل يمكنك تقديم أمثلة؟

الهدف 2: ممارسات صحافة الحلول في تغطية تغير المناخ:

7. هل عملت على تقارير خاصة بتغير المناخ والتي تتناولها من منظور صحافة الحلول؟ إذا كانت الإجابة بنعم، هل يمكنك مشاركة بعض هذه الأمثلة؟
 8. ما مدى تأثير صحافة الحلول في إشراك الجمهور وإعلامه بقضايا تغير المناخ؟
- الهدف 3: تقييم ممارسات صحافة الحلول والصحفيين البيئيين:**
9. هل يمكنك وصف النهج الذي تتبعه في إعداد التقارير حول تغير المناخ من منظور الحلول؟ ما هي التقنيات التي تستخدمها للتأكيد على الاستجابات الإيجابية والفعالة لقضايا المناخ؟
 10. كيف يمكنك تحديد القصص المتعلقة بالمناخ التي يجب تغطيتها من منظور صحافة الحلول؟

11. كيف يمكنك قياس تأثير تقاريرك التي تركز على الحلول على المجتمعات المحلية؟ هل لاحظت أي تعليقات من الجمهور على تقارير صحافة الحلول المتعلقة بتغير المناخ؟
- الهدف 4: تحديد التحديات التي يواجهها الصحفيون في تغطية تغير المناخ من منظور الحلول:
12. ما هي الصعوبات التي تواجهها في تحديد مصادر وإنتاج قصص تغير المناخ التي تركز على الحلول؟
13. كيف يمكنك الموازنة بين الإبلاغ عن الاستجابات الإيجابية لتغير المناخ ومعالجة الآثار والتحديات السلبية المحتملة؟
14. إلى أي مدى تعتقد أن تسييس تغير المناخ يؤثر على التغطية الإعلامية؟ هل يؤثر ذلك على إطار أو لهجة التقارير المتعلقة بتغير المناخ؟
15. في رأيك، كيف يمكن تحسين ممارسة صحافة الحلول في تغطية تغير المناخ؟
- أسئلة سياقية: التغطية الإعلامية لمؤتمري COP27 / COP28
16. كيف تصف التغطية الإعلامية الشاملة والاهتمام العام بمؤتمري COP27 وCOP28؟
17. هل كانت هناك سمات أو مواضيع مميزة في التغطية الإعلامية حولهما؟
18. هل كانت هناك جهود إعلامية محددة لتثقيف الجمهور حول تغير المناخ؟
19. ما هي التحديات التي واجهتها وسائل الإعلام المحلية والإقليمية في تغطية مثل هذه المؤتمرات، وكيف تغلبت عليها؟
20. ما هي الفرص التي جلبتها استضافة مثل هذه الفعاليات إلى المنطقة فيما يتعلق بالتغطية الإعلامية والعمل المناخي؟

APPENDIX 3: List of participants

job title, education, years of experience, media organization, media type, and participation in COP27/COP28.

Participant	Job Title	Education	Years of Experience	News media	Media Type	Participation in COP27/COP28
Journalist 1	Science Editor and Journalist	BA of Engineering	12 years	Al-Masry Al-Youm	Egyptian/Private	Attended and Covered both
Journalist 2	Co-founder and vice-president	BA in Pharmacy and an MA in science communication.	11 years	Arab Forum of Science Media and Communication	Regional/Private	N/A
Journalist 3	Solutions journalist and founder	BA in Mass Communication and MA in Digital Journalism	4 years	Solutions in Arabic initiative	Regional/Private	N/A
Journalist 4	Science Journalist	BA of Commerce	19 years	Nature and sci-dev	International/Private	Attended and Covered both
Journalist 5	Investigative reporter and co-founder	BA of Media Education	6 years	Environment and Climate Journalism (ECJ) Network in MENA	Regional/Private	Attended and Covered both
Journalist 6	Science journalist/Former Head of Education and Scientific Research	BA in Mass Communication and MA in Digital Journalism	19 years	Freelance/ Al-Shorouk	N/A	N/A
Journalist 7	Solutions journalist	BA in political science and MA in journalism	15 years	Egab for Solutions Jouranlism	Regional/Private	N/A
Journalist 8	Investigative journalist	BA in Mass Communication	11 years	Climate School	Regional/Private	N/A
Journalist 9	Journalist and editor-in-chief	BA of Acting and directing	18 years	Rose al-Yūsuf and “Ozone”	Egyptian/Private	Attended and Covered both.
Journalist 10	Science journalist	BA of Science	4 years	Al-Ain news	Emirati/Private	Attended and Covered both.
Journalist 11	Senior Web Editor and editor-in-chief	BA of Mass Communication	17 years	AlAin News: Green Space	Emirati private media	N/A
Journalist 12	Head of the science section	BA of Science	25 years	Al-Ahram	Egyptian/ State-Owned	Attended and covered COP27.

Journalist 13	Deputy Editor-in-Chief	BA in pharmacy	22 years	Sci-dev: MENA edition	International	N/A
Journalist 14	Central Desk Head Editor	BA of Science	22 years	Yum7 and Green Future website	Egyptian/Private	N/A
Journalist 15	Science journalist	BA of Mass Communication	8 years	COP28 Arabic editorial team	Emirati	Attended and Covered both.
Journalist 16	Science and solutions journalist	BA of Law	10 years	The National	Emirati/ Private	N/A
