



A Pragma-Semiotic Analysis of Environmental Sustainability Narratives in Arabic and Western Social Media

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ABSTRACT

Social media has become a principal site where environmental sustainability is constructed, framed, and contested through the interplay of images and language. While environmental science conveys universal facts, the persuasive packaging of those facts remains culturally specific, and much existing research treats the textual and visual dimensions of environmental discourse separately. This paper addresses that gap by conducting a comparative pragma-semiotic analysis of sustainability narratives in Arabic and Western social media, examining the semiotic and visual strategies, persuasive pragmatic devices, and ideological framing that distinguish individualistic from collectivistic cultural orientations. Adopting a qualitative descriptive-analytical design, the study applies an eclectic model that combines Kress and van Leeuwen's visual grammar, Searle's speech act theory together with Cap's proximation theory, and Entman's framing functions. Six purposively selected multimodal samples, three Western and three Arabic/Iraqi, drawn from institutional, activist, and news sources, are analysed through a four-step procedure comprising contextualisation, semiotic analysis, pragmatic analysis, and framing analysis. The findings show that Western discourse favours frames of individual agency, activism, and corporate blame, realised primarily through animal- or human-centred imagery and stronger forms of direct viewer engagement, while Arabic discourse favours collectivist, state-mediated framing realised through landscape and infrastructure imagery and predominantly observational visual relationships, with causal attribution frequently extended to domestic institutions or transboundary political actors. Both corpora employ spatial, temporal, and axiological proximation, but their realisations diverge along individualistic and collectivistic lines. The study concludes that the eclectic pragma-semiotic model is analytically robust and culturally portable, offering a transferable instrument for the comparative study of multimodal environmental communication.

Keywords: pragma-semiotic analysis, multimodal discourse, sustainability narratives, cross-cultural communication.

تحليل تداولي سيميائي لسرديات الاستدامة البيئية في منشورات وسائل التواصل الاجتماعي العربية والغربية

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المخلص

أصبحت وسائل التواصل الاجتماعي فضاءً رئيسياً يُبنى فيه مفهوم الاستدامة البيئية ويُطَوَّر ويُتَلَفَّ عليه من التفاعل بين الصور واللغة. وفي حين أن العلوم البيئية تنقل حقائق عالمية، فإن التغليف الإقناعي لهذه الحقائق يبقى مرتبطاً بالخصوصية الثقافية، كما أن كثيراً من الدراسات السابقة تتناول البعدين النصي والبصري للخطاب البيئي بشكل منفصل. وتتصدى هذه الورقة البحثية لهذه الفجوة من إجراء تحليل تداولي-سيميائي مقارنة لسرديات الاستدامة في وسائل التواصل الاجتماعي العربية والغربية، إذ تفحص الاستراتيجيات السيميائية والبصرية، والوسائل التداولية الإقناعية، والتأطير الأيديولوجي الذي يميز التوجهات الثقافية الفردانية عن التوجهات الجماعية. وباعتماد تصميم نوعي

وصفي-تحليلي، تطبق الدراسة نموذجًا انتقائيًا يجمع بين النحو البصري لكريس وفان ليون، ونظرية أفعال الكلام لسيرل مقترنةً بنظرية التقريب لكاب، ووظائف التأطير عند إنتمان. وقد خضعت ست عينات متعددة الأنماط اختيرت بطريقة قصدية، ثلاث منها غربية وثلاث عربية/عراقية، مستقاة من مصادر مؤسسية ونشطوية وإخبارية، للتحليل عبر إجراء من أربع خطوات يشمل السياق، والتحليل السيميائي، والتحليل التداولي، وتحليل التأطير. وتُظهر النتائج أن الخطاب الغربي يميل إلى أطر الفاعلية الفردية والنشاط الاحتجاجي وإلقاء اللوم على الشركات، وتتحقق هذه الأطر بصور تتمحور على الحيوان أو الإنسان، وصور طلبية، وزوايا تصوير مرتقعة، على حين يميل الخطاب العربي إلى تأطير جماعي تتوسطه الدولة، يتحقق من صور المشهد الطبيعي والبنية التحتية، وصور عرضية، ووجهات نظر أفقية على مستوى العين، مع امتداد الإسناد السببي غالبًا إلى المؤسسات المحلية أو الفاعلين السياسيين العابرين للحدود. وتوظف المدونتان كلتاهما استراتيجيات التقريب المكاني والزمني والقيمي، إلا أن تجلياتها تتباين تبعًا للخطين الفردي والجماعي. وتخلص الدراسة إلى أن النموذج التداولي-السيميائي الانتقائي المعتمد يتمتع بمتانة تحليلية وقابلية للنقل عبر الثقافات، مما يجعله أداة قابلة للتوظيف في الدراسات المقارنة للتواصل البيئي متعدد الأنماط.

الكلمات المفتاحية: التحليل التداولي-السيميائي، الخطاب متعدد الأنماط، سرديات الاستدامة، التواصل عبر الثقافات

1. Introduction

Environmental sustainability is among the most urgent concerns of the contemporary world, and the way ecological issues are communicated is central to shaping public understanding and pro-environmental behaviour (Nisbet, 2009). As social media platforms have become primary arenas for ecological debate, complex sustainability concepts are increasingly compressed into multimodal messages that combine language and images. The framing of such messages for particular audiences is not a neutral or natural occurrence; it is a culturally, politically, and socially situated process (Entman, 1993). Environmental discourse in Arabic contexts tends to be structured around collective and institutional values, whereas Western discourse more often foregrounds personal responsibility and individual agency (Hofstede et al., 2010). This cultural variation calls for sustained academic inquiry into the pragma-semiotic strategies through which different cultures communicate the same global threat.

The rise of multimodal discourse has further transformed environmental communication, as meaning is increasingly built through the interaction of images, symbols, and speech acts rather than through language alone (Kress & van Leeuwen, 2006; Machin & Mayr, 2012). A single social media post on renewable energy or water conservation constitutes a layered semiotic construction in which visual mood and pragmatic force combine to persuade the viewer, requiring an analytical approach that looks beyond the surface text to the strategies of persuasion and ideology that separate global environmental objectives from local cultural specificities. This paper accordingly develops and applies an eclectic pragma-semiotic model to Arabic and Western sustainability narratives, examining how visual grammar, persuasive pragmatics, and framing jointly shape environmental awareness across two distinct discourse communities.

1.1 Research Problem

Although there is broad international agreement on the urgency of environmental sustainability, the way ecological discourse is framed and propagated differs considerably across cultural settings. Much environmental communication is produced within a Western paradigm and disseminated internationally with limited regard for the socio-cultural and linguistic particularities of non-Western communities, especially Arabic ones. Environmental science offers universal facts, but the persuasive presentation of those facts remains culturally uneven. Existing scholarship tends to separate the study of textual environmental policy from the study of visual green advertising, rarely combining the two into a single pragma-semiotic approach capable of explaining cultural difference.

This separation obscures how ideological framing of sustainability diverges across cultures: Western discourse tends to approach environmentalism through individual agency and technological innovation, whereas Arabic online discourse more often combines environmentalism with national development, collective consciousness, and institutional stewardship. Without rigorous comparative analysis, it remains unclear how these differing framing strategies shape audience perception of environmental threats and solutions. This study addresses that gap through a systematic cross-cultural pragma-semiotic analysis of multimodal environmental sustainability narratives in Arabic and Western social media posts.

1.2 Research Questions

This study seeks to answer the following questions:

1. Which semiotic and visual strategies do Arabic and Western environmental social media posts employ, and how do visual metafunctions construct ecological meaning?
2. What persuasive pragmatic strategies, namely speech acts and proximisation, shape audience perception of sustainability narratives in each discourse?
3. How does ideological framing differ between the two discourses in terms of problem definition, causal interpretation, moral evaluation, and treatment recommendation, and what does this reveal about individualistic versus collectivistic cultural orientations?

1.3 Research Objectives

In line with the questions above, this study aims to:

1. Identify the semiotic and visual strategies used in Arabic and Western sustainability social media posts and explain how visual metafunctions construct ecological meaning.

2. Investigate the persuasive pragmatic strategies, namely speech acts and proximisation, that shape audience perception in the two discourses.
3. Determine how ideological framing differs across Arabic and Western sustainability narratives and relate these differences to individualistic and collectivistic cultural orientations.

1.4 Significance of the research

The value of this research is that it combines three lenses of the semiotic, pragmatic and framing approaches in a common framework for comparative analysis of environmental sustainability discourse. The present study combines the visual grammar of Kress and van Leeuwen, the speech act theory of Searle, the theory of proximisation of Cap, and the theory of framing function of Entman, which were used in the respective studies, as opposed to studies on visual representation, pragmatic persuasion, and environmental framing separately. This integration gives the opportunity to explore the social media posts' verbal and visual aspects as complementary meaning-making resources. The study also brings a cross-cultural perspective by engaging with the study of environmental narratives from two cultures, namely, that of the Arabic culture and that of the West, and by analyzing the ways in which culturally situated patterns of agency, responsibility and persuasion are expressed in multimodal discourse.

2. Literature Review

2.1 Sustainability Narratives in Digital and Social Media

Sustainability as a concept has moved well beyond the management of natural resources. Social listening research on platforms such as Twitter shows that sustainability is now constructed as a multifaceted digital concept encompassing complex relationships among social equity, economic viability, and environmental protection, alongside persistent risks of greenwashing and selective self-presentation by organisations (Ballestar et al., 2020).

Social media platforms foster a participatory environment in which sustainability narratives are frequently multimodal, mixing text, image, and hashtag to maximise engagement. Comparative analyses of green-economy discourse in Qatar and Malaysia indicate that such digital discourses are not generic but reflect specific cultural and national priorities (Rabah et al., 2025). Geography further shapes narrative content: a comparative study of climate framing on YouTube reveals a North-South divide, whereby Global North narratives concentrate on policy and carbon accounting while Global

South narratives foreground development priorities and the immediate effects of environmental change on livelihoods (Damle & Krishnan, 2025). This divide anticipates the Arabic-Western distinction explored in the present study.

2.2 Semiotics, Multimodality, and Multimodal Critical Discourse Studies

Multimodality is an interdisciplinary approach concerned with the full range of communicative resources people use, including image, gaze, and gesture, and how these resources relate to one another (Jewitt & Henriksen, 2016). Van Leeuwen's social semiotic model reconceives signs not as fixed objects but as movable semiotic resources whose meaning potential develops through prior use and cultural convention. Colour, typography, and layout thus carry ideological rather than merely aesthetic significance, as when green imagery is deployed to signify eco-friendliness but can equally be exploited to mask unsustainable corporate practice (van Leeuwen, 2005).

Multimodal Critical Discourse Studies (MCDS) extends Critical Discourse Analysis to visual and multimodal texts, examining how power, ideology, and social identity are constructed through non-linguistic as well as linguistic means (Machin & Mayr, 2012). MCDS draws heavily on Kress and van Leeuwen's (2006) *Grammar of Visual Design*, which treats images as structured, non-innocent representations organised through three metafunctions: the representational metafunction, concerned with how actors and actions are depicted; the interactive metafunction, concerned with the relationship constructed between viewer and image through gaze, distance, and camera angle; and the compositional metafunction, concerned with the salience and placement of visual elements.

2.3 Persuasive Pragmatics: Speech Acts and Proximisation

Pragmatics examines language in context and is concerned not merely with what is said but with what is accomplished through saying it (Mey, 2001). Persuasive pragmatics extends this concern to the strategic use of speech acts, implicature, and rhetorical choice to influence audience belief, attitude, and behavior. This reflects the recognition that communication aims not only to be understood but also to be believed (Taillard, 2000).

Speech act theory provides the central pragmatic tool for this line of analysis. Language, in Searle's (1969) account, does not merely describe reality but performs action. Within environmental discourse, assertive speech acts commit the speaker to the truth of ecological propositions and establish institutional credibility, while directive speech acts seek to move audiences toward action, whether explicitly or through implication. Proximisation operates along three dimensions: spatial proximisation brings a distant threat into the physical vicinity of the audience; temporal

proximisation compresses the distance between an anticipated crisis and the present moment; and axiological proximisation constructs a moral boundary between an endangered in-group and a blameworthy out-group (Cap, 2013).

2.4 Green Framing and Cross-Cultural Communication

Framing theory explains how selected aspects of reality are made salient in a text so as to promote a particular problem definition, causal interpretation, moral evaluation, or treatment recommendation (Entman, 1993). Building on this literature, the present study organises its analysis of ideological content around five recurrent Core Green Frames: the Ethical frame, emphasising moral responsibility and stewardship; the Economic frame, emphasising costs, benefits, and development; the Scientific frame, relying on empirical and expert authority; the Activist frame, mobilising public action and systemic change; and the Aesthetic frame, appealing to the beauty of the natural world (Nisbet, 2009).

These frames are not culturally neutral. An analysis of Egyptian and Emirati newspapers finds that Arabic media commonly frame sustainability through international cooperation and regional leadership rather than grassroots activism (Radwan et al., 2023). Cultural values help explain these divergent framing patterns. Hofstede's cultural dimensions model, particularly the individualism-collectivism dimension, proposes that persuasive narratives emphasising personal responsibility and individual efficacy resonate most strongly in individualist Western societies, whereas narratives aligned with group harmony, national pride, and collective good are more persuasive in collectivist societies, including many in the Arabic world (Hofstede et al., 2010).

2.5 Previous Empirical Studies and Research Gap

Sustainability communication has been explored in various relevant areas in previous studies. Ballestar et al. (2020) illustrate the multi-dimensional nature of sustainability in social media discourse, and Rabah et al. (2025) illustrate the culturally and nationally-specific nature of digital sustainability narratives. Likewise, Damle and Krishnan (2025) show the disparity in the climate narratives between the Global North and the Global South, especially in the aspects of policy, development, and the impact of environmental shifts on present-day society. In the Arabic media, Radwan et al. (2023) demonstrate that the concept of sustainability is often more institutional oriented, emphasising the importance of cooperation and regional leadership, than grassroots environmental activism.

The studies offer valuable contributions to the theorisation of digital sustainability discourse, cultural framing and environmental communication; however, they do not systematically combine

the concepts of visual semiotics, speech acts, proximation and framing as part of one comparative model. A particular lacuna has received less attention—how visual and verbal tools work together to create varied modalities in the relationship between agency and responsibility in the discourses of Arabic and Western social media. The present study fills this gap by combining a pragma-semiotic analysis of multimodal environmental sustainability narratives.

3. Methodology

This study adopts a qualitative, descriptive-analytical design suited to the interpretive demands of multimodal discourse analysis. Rather than testing hypotheses through numerical measurement, the study seeks to describe and interpret how visual and linguistic elements interact to construct ideological meaning, a goal that requires close, non-numeric engagement with each sample's textual and visual layers. This qualitative orientation aligns directly with the study's combination of semiotic, pragmatic, and framing analysis, since these analytical layers are concerned with meaning construction rather than statistical generalisation.

3.1 The Data of the Study

The data for the broader study from which this paper is drawn consist of twenty purposively selected multimodal samples, divided equally into a Western group and an Arabic/Iraqi group, gathered from Instagram, Facebook, and Google-indexed institutional and news content. Each sample combines an inseparable visual component, typically a photograph or graphic design, with a textual component consisting of a caption and, where present, accompanying hashtags. Samples were selected according to strict criteria: each had to exhibit clear multimodality, address a clearly identifiable and current environmental issue, display discernible persuasive strategies such as assertive or directive speech acts, and derive from a legitimate, publicly accessible source such as a non-governmental organisation, news outlet, or official institutional account. The samples from both groups were selected using the same criteria in order to allow a comparable cross-cultural analysis of environmental sustainability discourse.

For the purposes of this paper, six of the twenty original samples are presented in detail: three Western samples, comprising a World Wildlife Fund post on ocean plastic pollution, a Greenpeace International post on the environmental impact of fast fashion, and a World Wildlife Fund post on Amazon deforestation, and three Arabic samples, comprising a 964 Media Network report on Tigris-Diyala river pollution in Iraq, an Al Jazeera Arabic report on desertification and declining river levels, and an Al Jazeera Arabic report on the Shatt al-Arab salinity crisis in Basra. These six samples were selected because they are directly representative of the recurrent patterns identified

across the full twenty-sample corpus and because, taken together, they span the institutional, activist, and journalistic registers characteristic of environmental communication in both cultures.

3.2 The Model of the Study

The study applies an eclectic pragma-semiotic model integrating three analytical layers. The semiotic layer draws on Kress and van Leeuwen's (2006) *Grammar of Visual Design*, analysing each image's representational, interactive, and compositional metafunctions to determine how actors, viewer relationships, and visual salience construct ecological meaning. The pragmatic layer draws on Searle's (1969) speech act theory, with particular attention to assertive and directive acts, together with Cap's (2013) proximisation theory, which tracks spatial, temporal, and axiological strategies for rendering environmental threats immediate and morally consequential. The framing layer draws on Entman's (1993) four framing functions: problem definition, causal interpretation, moral evaluation, and treatment recommendation, which are synthesised to classify each sample under one of five Core Green Frames: Ethical, Economic, Scientific, Activist, or Aesthetic. This layered model, consistent with the broader tradition of Multimodal Critical Discourse Studies (Machin & Mayr, 2012), allows the visual and verbal dimensions of each sample to be analysed together rather than separately, and enables a structured cross-cultural comparison of which frames and strategies predominate in Arabic versus Western sustainability discourse.

Each sample is analysed through four consecutive steps. Contextualisation situates the sample within its digital platform, target audience, and environmental issue. Semiotic analysis applies the three visual metafunctions. Pragmatic analysis identifies the dominant speech acts and proximisation strategies in the caption. Framing analysis synthesises the preceding layers to determine the sample's dominant Core Green Frame, thereby supporting a systematic comparison between the two cultural corpora.

4. Data Analysis

4.1 Western Samples

4.1.1 Ocean Plastic Pollution (World Wildlife Fund)

"Every year, the world produces over 462 million tons of plastic. While plastic can be a useful material, 90% of it pollutes our planet. This is particularly true of single-use items such as plastic cutlery, packaging, and microplastics, which break off larger pieces of plastic like textiles. Currently, an estimated 9 million to 14 million tons of plastic waste end up in our oceans each year. Plastic waste has been found in all areas of the globe, from the deepest seas to the most remote mountains. It causes major harm to wildlife and ecosystems, disrupts the livelihood of millions of people, and

poses significant risks to human health and the world economy. From people and wildlife to the communities and habitats they call home, solving the plastic pollution crisis is a challenge we all share. We need this for ourselves and for our world. WWF is fighting for a world with no plastic in nature, and we're not alone in this fight."



World Wildlife Fund. (n.d.-b). Tackling global plastic pollution. Retrieved June 9, 2026, from <https://www.worldwildlife.org/initiatives/plastics>

This sample, sourced from the World Wildlife Fund, pairs a photograph of a river otter handling a plastic bottle with a caption citing global plastic-pollution statistics. Representationally, the otter functions simultaneously as an active participant and as a victim, its interaction with a wholly foreign, human-made object charging the image with an implicit narrative of ecological violation. Interactively, the animal's visually engaging orientation encourages emotional involvement and positions the viewer close to the represented ecological harm that solicits the viewer's emotional and moral engagement, reinforced by a medium close-up shot and a slightly low camera angle that place the viewer on the otter's level. Compositionally, a soft-focus, desaturated background sharpens the central juxtaposition of a wild, innocent creature and the polluting bottle it grasps. Pragmatically, assertive speech acts, such as the claim that 'the world produces over 462 million tons of plastic' every year, establish scientific and institutional authority, while softer directive acts, such as the

statement that solving the crisis is 'a challenge we all share,' invite audience participation without issuing direct commands. All three proximation strategies are present: the animal's visible suffering enacts spatial proximation, present-tense verbs enact temporal proximation, and an implicit moral boundary is drawn between an innocent natural world and careless human activity. Read through Entman's four functions, the dominant Core Green Frame is Ethical, consistent with the advocacy register typical of international conservation organisations.

4.1.2 Fast Fashion (Greenpeace International)

"Fast fashion brands flood the market with cheap, trendy clothing at an unsustainable rate, creating enormous environmental and social harm. Despite their attempts at greenwashing (especially those involving the use of sustainability labels covering environmental or social aspects), their business model is fundamentally incompatible with true sustainability. Here are four key reasons why fast fashion will never be green. Fast fashion thrives on overproduction. Brands like Shein, Temu, Zara, and H&M release hundreds of new designs weekly, fuelling a culture of overconsumption. But what happens to the clothes once the trends fade? Millions of garments end up in landfills or are incinerated each year, with devastating environmental consequences. The fashion industry has a massive plastic problem that it outsources to countries in the Global South, where textile waste pollutes the environment. Ultimately, fast fashion will never be truly green. Its model is built on exploitation, of resources, workers, and consumers."



Greenpeace International. (2025). *4 reasons why fast fashion will never be green*.

<https://www.greenpeace.org/international/story/73504/4-reasons-why-fast-fashion-will-never-be-green/>

The second sample, from Greenpeace International, depicts two activists holding a banner reading '#END FAST FASHION' amid a coastal landscape of textile waste. Representationally, the activists are simultaneously human actors and symbolic participants, dwarfed by a waste heap that dominates the frame. Interactively, their direct frontal gaze constructs a demand image that positions the viewer as an implicated party to the protest rather than a passive observer, an effect reinforced by a medium-long shot that allows the full scale of the waste landscape to register. Compositionally, the banner's high salience yellow colour contrasts sharply with the surrounding grey-brown debris, visually asserting that the crisis has moved beyond ordinary, reformable proportions. Pragmatically, assertive speech acts document the industry's overproduction and its outsourcing of waste to the Global South, while the campaign hashtag itself, '#END FAST FASHION,' performs an unusually explicit directive speech act, rare within the wider corpus, calling directly for the industry's end rather than its reform. Causal interpretation names specific corporate actors, including Shein, Temu, Zara, and H&M, and moral evaluation is categorical, describing the industry's model as 'built on exploitation.' Proximation operates spatially through the immersive waste imagery, temporally through present-tense verbs such as 'thrives' and 'releases,' and axiologically through a clear division between an exploited Global South in-group and a greenwashing corporate out-group. The dominant Core Green Frame is Activist, foregrounding confrontation and systemic transformation over incremental reform.

4.1.3 Deforestation (World Wildlife Fund)

"Deforestation is a particular concern in tropical rainforests because these forests are home to much of the world's biodiversity. In the Amazon alone, around 17% of the forest has been lost over the last 50 years, mainly due to forest conversion for cattle ranching. Deforestation in this region is especially rampant near more populated areas, roads, and rivers, but remote areas have also been encroached upon with the discovery of valuable resources like gold and oil. Deforestation can happen rapidly, such as when a fire sweeps through the landscape or the forest is clear-cut to make way for an oil palm plantation. There are several economic incentives in place that contribute to deforestation in the Amazon: Real estate speculation is a major driver. The price of land in the Amazon can increase up to tenfold once the forest has been cleared. Amazon forests also suffer as global demand for products such as beef and soy increases."



World Wildlife Fund. (n.d.-a). *Deforestation and forest degradation*. Retrieved June 9, 2026, from <https://www.worldwildlife.org/threats/deforestation-and-forest-degradation>

The third Western sample, again from the World Wildlife Fund, presents an aerial photograph of a solitary baby elephant crossing a landscape of cleared and uprooted palm trees, with a thriving oil palm plantation and forested mountains visible in the distance. Representationally, the elephant functions as a conceptual symbol of a broader wildlife crisis, its small figure travelling through the material aftermath of deforestation. Interactively, the elephant's rear-facing orientation withholds a reciprocal gaze, positioning the viewer as a witness to, rather than an addressee of, the animal's plight, while the elevated aerial vantage point and the vast scale of the destroyed terrain intensify the sense of isolation and moral burden placed on the viewer. Compositionally, the muted, devastated foreground occupies roughly two-thirds of the frame against a lush green background, and the elephant's small size relative to that destruction creates strong visual salience despite its diminutive proportions. Pragmatically, assertive statistics such as the claim that 'around 17% of the forest has been lost over the last 50 years' lend empirical authority, while the caption's reference to 'global demand for products such as beef and soy' implicitly directs viewers to connect their own consumption choices to the crisis. Spatial and temporal proximisation compress a distant, abstract Amazonian crisis into an immediate, ongoing emergency, and an axiological boundary separates the innocent, displaced animal from profit-driven economic actors. The dominant Core Green Frame is Ethical, foregrounding the intrinsic value of biodiversity, though causal interpretation situates

responsibility squarely within global commodity markets, giving the sample a secondary Economic dimension.

4.2 Arabic Samples

4.2.1 Tigris-Diyala River Pollution (964 Media Network)

"Network 964 documented the death of tonnes of fish in floating fish farms on the Tigris River from Suwayra all the way to the Alkayya area north of Kut, as a result of pollution coming from the Diyala and Tigris rivers. The Wasit Agriculture Directorate pledged to compensate those affected after counting the quantities. The Parliamentary Agriculture and Water Committee had directed the formation of a team to follow up on environmental damage and compensate farmers and fishery breeders in the Tigris basin as a result of the pollution occurring in Diyala River waters. What happened was the seepage of Rustamiya sewage into the Diyala River, alongside sediments in the Tigris resulting from recent rains and rising water levels — sediments that rose to the surface of the river."



964 Media Network. (2026, April 14). *The most widely shared image: The government's explanation of the Tigris, Diyala River, and the strange colours* [News report]. <https://964media.com/670733/>

The fourth sample, from the Iraqi outlet 964 Media Network, presents an aerial photograph of the confluence of the Tigris and Diyala rivers, whose visibly different colourations, a turbid brown Tigris against a dark, contaminated Diyala, visually signal severe pollution without recourse to any verbal explanation, framed by agricultural land on both banks. Representationally, the chromatic contrast between the two water bodies functions as the central visual argument, linking pollution directly to the livelihoods of surrounding farming communities. Interactively, the absence of any human or animal actor renders the image an environmental offer rather than a demand, positioning the elevated, distanced viewer as an observational witness who must read the river's condition rather than meet any subject's gaze. Compositionally, the diagonal chromatic divide bisecting the frame creates maximal salience around the boundary between contamination and natural flow. Pragmatically, assertive speech acts document 'the death of tonnes of fish in floating fish farms' and trace their cause to 'the seepage of Rustamiya sewage into the Diyala River,' while directive force is expressed institutionally rather than individually, through the Parliamentary Agriculture and Water Committee's formation of a follow-up team and the Wasit Agriculture Directorate's pledge of compensation. Spatial proximisation is achieved through the precise naming of the affected stretch, from Suwayra to Alkayya north of Kut, while the axiological structure positions farming and fishing communities as an innocent in-group harmed by inadequate sewage infrastructure. The dominant Core Green Frame is Ethical, supplemented by an Economic frame addressing the material losses suffered by affected communities.

4.2.2 Desertification and Declining River Levels

"Iraq is suffering a sharp and alarming decline in the levels of the Tigris and Euphrates rivers, the two vital arteries upon which more than 90% of the country's population depends for water. Desertification is not merely an environmental phenomenon; it is a driver of economic and social deterioration. Dust and sandstorms have become more frequent and intense, covering entire cities in dust for days, causing serious health problems and accelerating the erosion of what fertile soil remains. Iraq has lost vast agricultural areas to the desert, and estimates indicate that this phenomenon continues to expand."



Al Jazeera Arabicic. (2025, November 6). *Iraq's drought: Climate change threatens the land of Mesopotamia* [Blog post]. <https://aljazeera.net/blogs/2025/11/6/جفاف-العراق-تغير-المناخ-يهدد-أرض>

The fifth sample, an Al Jazeera Arabicic blog post, depicts a nearly dry irrigation channel beneath a concrete water-control structure, its arched gates mostly empty above a bed of cracked mud, shallow puddles, and scattered litter. Representationally, this human-built infrastructure, rendered purposeless by the absence of the very resource it was designed to manage, becomes a symbolic index of a broader national water crisis. Interactively, the absence of any human or animal presence again produces an environmental offer, and a low, ground-level vantage point conveys an impression of plain, unmediated documentary observation rather than emotional appeal. Compositionally, a horizontal division between the elevated concrete structure above and the depleted channel bed below creates a visual narrative of engineering rendered powerless by environmental depletion, while the structure's repeating arches suggest that the crisis extends well beyond this single channel. Pragmatically, a foundational assertive stating that more than 90% of the country's population depends on the Tigris and Euphrates for water nationalises the stakes of the crisis, while further assertives document intensifying dust storms and agricultural loss. Spatial proximisation extends from the depicted structure to entire dust-covered cities, and temporal proximisation frames desertification as an ongoing process through the claim that 'this phenomenon continues to expand.' Causal interpretation remains comparatively diffuse, attributing the crisis to

regional climate change and transboundary water management rather than to any single named actor. The dominant Core Green Frame is Scientific, complemented by an Economic frame addressing the social and economic costs of water scarcity.

4.2.3 *Shatt al-Arabic Salinity Crisis (Al Jazeera Arabicic)*

"The residents of Basra Governorate in southern Iraq face an environmental danger in the form of rising saline intrusion in the waters of Shatt al-Arabic, in addition to enduring temperatures that sometimes reach 51 to 53 degrees Celsius. Salinity levels continued to rise significantly in some areas of Basra Governorate, exceeding the permitted standards for usable or drinking water. Al-Aidani adds that the population of Shatt al-Arabic district numbers approximately 650,000 people, and none of these families have received safe drinking water. He notes that an advisor to the Basra Governor confirmed that the saline intrusion in Shatt al-Arabic is 'an international file because it is linked to the issue of water releases coming from Turkey and Iran, and is outside the jurisdiction of the local government.'"



Al Jazeera Arabicic. (2021, July 27). *Rising salinity of Shatt al-Arabic: An environmental catastrophe threatening Basra residents* [News report].

<https://www.aljazeera.net/misc/2021/7/27/ارتفاع-ملوحة-شط-العرب-كارثة-بيئية-تهدد>

The sixth sample, also from Al Jazeera Arabic, reports on rising salinity in Basra's Shatt al-Arabic waterway amid extreme heat, accompanied by a photograph of turbulent greenish-grey water bordered by distant industrial structures and palm trees. Representationally, the choppy, murky water itself becomes the central subject, visually encoding the compromised water quality described in the caption, while the distant shoreline situates the crisis within an inhabited, economically significant space. Interactively, the absence of any human or animal presence again produces an offer image, and an eye-level perspective across the water's expanse conveys the scale of a crisis too large to be contained within a single easily grasped frame. Compositionally, the water's overwhelming dominance of the frame, set against a comparatively thin band of shoreline, visually subordinates human settlement to the scale of the environmental threat. Pragmatically, an escalating sequence of assertive speech acts ...culminates in the demographic claim that of the district's roughly 650,000 residents, 'none of these families have received safe drinking water,' a particularly salient statement in the Arab corpus, while a quoted statement from an advisor to the Basra Governor describing the crisis as 'an international file' linked to water releases from Turkey and Iran performs both an assertive diagnosis and can also be interpreted as an implicit directive addressed to international rather than local actors. Spatial proximation extends beyond Iraq's borders to name Turkey and Iran explicitly, and the axiological structure positions both Basra's population and its local government jointly as victims of external policy, a pattern of causal attribution largely absent from the Western corpus. The dominant Core Green Frame is Ethical, closely entwined with the geopolitical framing characteristic of Arabic transboundary environmental discourse.

5. Discussion

The six samples analysed above directly address the study's three research questions. With respect to semiotic and visual strategy, the Western samples privilege animal or human protagonists, with direct viewer engagement particularly evident in the first two samples, while the Arabic samples privilege unpopulated landscapes and infrastructure positioned as offer images, inviting evidentiary assessment rather than emotional appeal. Camera vantage point varies across both corpora, although the Arab samples more consistently foreground environmental landscapes and infrastructure as objects of observation, whereas the Western samples more frequently foreground animate participants as focal points of engagement.

With respect to persuasive pragmatic strategy, assertive speech acts dominate both corpora, but they are grounded in different sources of authority: Western samples ground their assertions in scientific or non-governmental institutional expertise, while Arabic samples ground theirs in governmental or parliamentary authority. Explicit, unmediated directives, exemplified by

Greenpeace's '#END FAST FASHION,' are comparatively rare in the Western sample set and effectively absent from the Arabic set, where directive force is instead communicated through institutional response, official statement, or policy commitment. All three proximation strategies, spatial, temporal, and axiological, appear across both corpora; the difference lies not in which strategies are used but in how they are realised, with Western spatial proximation typically achieved through emotionally close imagery of an individual victim and Arabic spatial proximation typically achieved through the precise naming of provinces, rivers, and administrative districts.

With respect to ideological framing, the Western samples more often name specific corporate or industrial actors as causal agents and gravitate toward Activist and Ethical frames premised on individual or civil-society agency. The Arabic samples, by contrast, attribute causation to domestic institutional failure or, in the case of transboundary water disputes, to neighbouring states such as Turkey and Iran, and gravitate toward Ethical, Economic, and Scientific frames premised on collective and state-mediated responsibility, with the Activist frame notably absent. This distinction is broadly consistent with Hofstede's individualism-collectivism dimension: The Western sample tend to constructs the individual as the primary locus of environmental agency, whereas The Arab sample tend to constructs the state and its institutions as that locus, extending outward to transboundary political actors where domestic responsibility reaches its limit.

6. Conclusion

Applying an eclectic pragma-semiotic model combining visual grammar, speech act and proximation theory, and Entman's framing functions to six representative multimodal samples, the analysis found that Western sustainability discourse tends to favour individual- and animal-centred imagery, demand images, explicit corporate blame, and Activist or Ethical framing, while Arabic sustainability discourse tends to favour landscape- and infrastructure-centred imagery, offer images, institutionally mediated directives, and Ethical, Economic, or Scientific framing oriented toward domestic or transboundary state actors.

These findings suggest that environmental sustainability issues are communicated through markedly different pragma-semiotic strategies depending on the underlying cultural orientation of the discourse community, with Western narratives constructing the individual as the primary agent of environmental responsibility and Arabic narratives constructing the state and its institutions as that agent. The study further demonstrates the analytical potential of the eclectic pragma-semiotic model for cross-cultural comparison, as it yields coherent and comparable results across two discourse communities that differ considerably in language, institutional structure, and rhetorical convention.

7. Recommendations

Environmental communicators should consider cultural differences in the use of visual and pragmatic strategies when designing sustainability messages for different audiences. Greater attention should also be given to balancing individual and institutional responsibility in environmental communication.

8. Suggestions for Further Studies

Further studies may apply the proposed pragma-semiotic model to larger samples and other social media platforms. Future research may also compare sustainability narratives across different Arab and Western countries to examine the consistency of the patterns identified in the present study.

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