

Role of hindi digital media in urban youth's Eco-Behaviour: content analysis of viral campaigns

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Abstract

This study investigates the role of Hindi digital media in shaping pro-environmental behaviour among urban youth in Delhi NCR, a region acutely affected by air pollution and climate vulnerability. It examines how leading Hindi media platforms Aaj Tak, Dainik Jagran, and ABP News utilize viral digital campaigns to frame ecological challenges and encourage sustainable lifestyle choices. Guided by framing theory, the research employs a content analysis of 30 viral multimedia campaigns from 2025 to 2026, each exceeding 500,000 views. These campaigns include short reels portraying solutions to Delhi's smog, satirical memes by creators such as Saloni Gaur, and youth-led pledges addressing issues such as AQI crises and Yamuna River clean-up drives. The coded categories centre on problem attribution, solution framing, and calls-

to-action, providing insight into how narrative strategies influence environmental consciousness among Hindi-speaking audiences. The study highlights communicative strategies and emotional tones particularly the use of satire, humour, and solution-oriented storytelling that enhance audience engagement with environmental discourse. While acknowledging the role of digital virality in promoting eco-awareness, the study also reflects on the limitations of algorithmic echo chambers that may curtail message outreach and civic participation. It concludes by suggesting the integration of AI-based content targeting to strengthen the continuity and reach of digital environmental communication, thereby positioning Hindi media as a crucial driver of youth-led eco-engagement in urban India.

Introduction

India's cities are expanding at an unprecedented pace. Rapid industrialization, motorization, and largely unplanned urban growth have significantly intensified environmental pressures across metropolitan regions (United Nations, 2019; World Bank, 2023). The Delhi National Capital Region (NCR) represents one of the most visible manifestations of this ecological strain. Severe air pollution, shrinking green cover, and erratic climate patterns have positioned Delhi as a recurring global case study in urban environmental crisis (Guttikunda & Gurjar, 2012; WHO, 2022). Each winter, episodes of "toxic smog" and hazardous Air Quality Index (AQI) levels dominate public discourse, triggering widespread concerns regarding respiratory health, longterm morbidity, and urban sustainability (Health Effects Institute, 2020; Gurjar et al., 2016). In this context, promoting pro-environmental behaviour particularly among younger populations has become both urgent and strategically significant.

Urban youth occupy a complex and paradoxical position within this environmental discourse. On the one hand, contemporary lifestyle patterns characterized by high consumption, increased reliance on private vehicles, and digitally mediated consumer cultures contribute to environmental stress

(UNEP, 2021). On the other hand, youth represent a powerful demographic capable of catalysing environmental change. Research indicates that young people demonstrate higher climate awareness and are more responsive to sustainability messaging, particularly when communicated through digital platforms (Lee et al., 2020; Corner et al., 2015). With widespread access to smartphones and social media, urban youth increasingly encounter environmental narratives through digital ecosystems (Statista, 2024). Platforms such as Instagram, YouTube, and X (formerly Twitter) function not merely as entertainment spaces but as participatory arenas where civic discourse unfolds (Papacharissi, 2015). Environmental concerns are now communicated through reels, memes, satire, emotional storytelling, and influencer commentary—formats that significantly shape issue perception and public engagement (Highfield, 2016; Vraga et al., 2015).

Within this digital ecology, Hindi-language media assumes particular importance. While English-language content often caters to urban elites, Hindi digital media reaches a substantially broader and socio-economically diverse audience across North India (IAMAI & Kantar, 2023). Linguistic familiarity enhances message accessibility, credibility, and emotional resonance, especially in public interest

communication (Hornik & Yanovitzky, 2003). Contemporary Hindi news platforms such as *Aaj Tak*, *Dainik Jagran*, and *ABP News* have adopted platform-specific storytelling formats—including short-form video explainers, satirical commentary, and influencer-led content—to align with evolving youth media consumption patterns.

Environmental communication in Hindi digital spaces increasingly blends information with humour, affective appeal, and participatory engagement, reflecting broader shifts toward hybrid media systems (Chadwick, 2017).

Despite the expanding presence of environmental messaging within Hindi digital ecosystems, scholarly research has inadequately examined how viral Hindi-language campaigns influence environmental attitudes and behavioural intentions among urban youth. Existing literature has largely focused on English-language climate communication or Western digital activism contexts

(Nisbet, 2009; O'Neill & Nicholson-Cole, 2009), leaving a significant gap in understanding vernacular digital environmental communication in India.

This study seeks to address that gap by examining viral Hindi digital campaigns circulating between 2025 and 2026 in the Delhi NCR. It analyses their framing strategies, engagement mechanisms, and behavioural influence patterns. The study is guided by three core research questions:

1. In what ways do viral Hindi digital campaigns shape eco-behaviour

among urban youth?

2. Which frames and communication techniques enhance campaign effectiveness?

3. How might technological tools, including AI-driven targeting, strengthen the impact of environmental messaging?

Framing Theory provides the conceptual foundation for this inquiry. Frames shape how problems are defined, causes attributed, moral judgments constructed, and solutions proposed (Entman, 1993). In environmental communication, framing influences risk perception, emotional engagement, and behavioural intention (Nisbet, 2009; O'Neill & Nicholson-Cole, 2009). By applying framing analysis to Hindi digital campaigns, this study contributes to emerging scholarship at the intersection of vernacular media, youth engagement, and environmental behaviour change in urban India.

Literature review

Digital media and environmental communication

Environmental communication has progressively shifted from traditional mass media to digitally networked platforms characterized by immediacy, interactivity, and algorithmic curation (Chadwick, 2017; Papacharissi, 2015). In the Indian context, studies on air pollution in Delhi indicate that severe pollution episodes correlate with spikes in online searches, digital news

consumption, and social media engagement (Gurjar et al., 2016; Health Effects Institute, 2020). Citizens increasingly rely on digital platforms not only for real-time updates but also for protective guidance and interpretive cues regarding risk severity. Media research suggests that exposure to repeated digital messaging influences risk perception, perceived responsibility, and behavioural urgency (Nisbet, 2009; O'Neill & Nicholson-Cole, 2009).

Contemporary environmental issues are encountered through timelines, push notifications, search engine results, and algorithmically curated feeds. This hybrid information ecosystem exposes audiences simultaneously to expert commentary, journalism, influencer perspectives, and user-generated content (Highfield, 2016). While such layered exposure enhances awareness potential, it also creates vulnerability to misinformation and interpretive fragmentation (Vraga & Bode, 2017). Consequently, digital platforms have become central arenas where pro-environmental attitudes may either be reinforced or diluted.

Importantly, digital environmental communication is rarely linear. Campaigns often integrate participatory mechanisms—hashtags, online pledges, petitions, challenges, and storytelling prompts—that encourage active engagement (Bennett & Segerberg, 2012). Research on environmental framing in India suggests that digital narratives frequently combine affective appeals with actionable

guidance, reframing environmental degradation from a distant structural issue to an immediate personal concern (Billett, 2010; Corner et al., 2015). This affective and participatory turn appears particularly resonant among younger audiences, who demonstrate higher responsiveness to emotionally framed climate communication (Lee et al., 2020).

Urban youth as environmental subjects

Young people increasingly occupy a central position in environmental discourse, both globally and within India. They are among those most vulnerable to deteriorating air quality and climate instability, while simultaneously possessing the digital literacy and networked capacity to amplify environmental concerns (United Nations, 2019; UNEP, 2021). Youth-led climate mobilizations and digital activism movements demonstrate how younger generations assert visibility within environmental governance debates (Fisher, 2019).

In Delhi, recurring smog crises have generated youth-driven documentation efforts, online advocacy campaigns, and creative protest expressions. Such activities reflect what Bennett and Segerberg (2012) describe as “connective action,” wherein digitally enabled individuals mobilize through personalized content sharing rather than formal organizational structures.

At the same time, urban youth lifestyles are deeply embedded in consumption-driven economies, private mobility dependence, and digitally accelerated consumer cultures (UNEP, 2021). This duality—being both contributors to and critics of unsustainable systems—positions youth as a particularly significant demographic for environmental communication research.

Scholars note that much youth engagement with environmental issues occurs through low-threshold digital actions such as sharing posts, signing petitions, or reposting awareness content (Theocharis, 2015). However, the translation of expressive digital participation into sustained pro-environmental behaviour remains uncertain (Corner et al., 2015). This gap between symbolic engagement and behavioural consistency highlights the need to examine how specific communication strategies influence eco-behaviour among urban youth.

Hindi digital media and vernacular communication

Early scholarship on digital environmental communication focused predominantly on English-language platforms in Western contexts (Nisbet, 2009). However, in multilingual societies such as India, vernacular digital media plays a transformative communicative role. Hindi-language digital platforms have expanded rapidly, significantly broadening access to environmental discussions (IAMAI & Kantar, 2023).

Language influences not only accessibility but also interpretive framing. Communication theory emphasizes that linguistic familiarity enhances message credibility, identification, and persuasive potential (Hornik & Yanovitzky, 2003). Hindi storytelling often incorporates idiomatic

expressions, culturally embedded metaphors, and regionally resonant imagery, rendering environmental narratives more immediate and socially embedded.

Digital news platforms increasingly adopt short-form videos, meme-based explainers, and visually compressed storytelling formats tailored to youth consumption habits (Highfield, 2016). Within Delhi NCR, where pollution constitutes a lived experience rather than an abstract threat, vernacular framing fosters a sense of shared vulnerability and collective identity. Yet systematic academic analysis of Hindi-language digital environmental campaigns remains limited, representing a significant research gap.

Satire, memes, and viral Eco-Activism

Satire and meme culture have become prominent modes of youth-driven environmental discourse. During severe pollution episodes in Delhi, digital platforms frequently circulate humorous yet critical commentary addressing governance failures and ecological anxiety. Scholars argue that humour

functions as both a coping mechanism and a tool of political critique in digital activism (Highfield, 2016).

Memes and short-form videos compress complex environmental critiques into visually accessible and shareable formats, enhancing message virality (Shifman, 2014). Such forms of “viral activism” exemplify digitally networked civic engagement where emotion, irony, and relatability drive participation (Bennett & Segerberg, 2012).

However, algorithmically curated feeds can foster echo chambers, wherein content circulates predominantly among ideologically aligned communities (Pariser, 2011). While virality enhances visibility, it may simultaneously limit deliberative diversity. Understanding this tension between amplification and fragmentation is essential when assessing the broader influence of digital environmental campaigns.

Framing theory and environmental narratives

Framing Theory provides a robust analytical framework for examining environmental media discourse. Frames function by defining problems, diagnosing causes, making moral evaluations, and suggesting remedies (Entman, 1993). In environmental journalism, common frames include human interest, conflict, responsibility attribution, economic consequence, and morality (Nisbet, 2009).

In digital environments, framing extends beyond textual content. Visual imagery, background music, editing techniques, and interactive features contribute to multimodal meaning-making (Chadwick, 2017). Environmental crises may be framed as governance failures, collective social tragedies, technological challenges, or opportunities for innovation and reform.

Research suggests that frames combining emotional resonance with clear behavioural cues are more likely to influence pro-environmental intentions (O'Neill & Nicholson-Cole, 2009).

Despite these insights, focused research examining how Hindi digital campaigns frame environmental issues specifically for urban youth remains scarce. The present study addresses this gap by applying Framing Theory to viral Hindi digital campaigns circulating in Delhi NCR, analysing how problems, solutions, and action pathways are constructed to potentially shape eco-behaviour.

Methodology

This study adopts a qualitative content analysis design to examine how viral Hindi digital campaigns frame environmental issues and potentially influence eco-behaviours among urban youth in Delhi NCR. Qualitative content analysis enables systematic interpretation of media texts through structured categorization of themes and meanings (Krippendorff, 2018).

The methodological framework is grounded in Framing Theory, which posits that media selectively emphasize certain aspects of reality, thereby shaping audience interpretation of causes, responsibility, and solutions (Entman, 1993). Frames in this study are conceptualized as patterned narrative structures embedded within language, visuals, tone, and calls-to-action.

The primary dataset comprises 30 viral Hindi digital campaigns produced between 2025 and 2026 by major Hindi news platforms such as *Aaj Tak*, *Dainik Jagran*, and *ABP News*.

Campaigns were selected from Instagram, YouTube, and affiliated digital platforms. To qualify as “viral,” each campaign required a minimum threshold of 500,000 views, consistent with digital engagement benchmarks used in social media research (Highfield, 2016).

The unit of analysis is the individual campaign post, defined as a discrete digital content item (video, reel, meme, or composite post). Each post was analysed across textual, visual, and interactive dimensions. A coding framework was developed deductively from Framing Theory (Entman, 1993; Nisbet, 2009) and inductively through preliminary immersion in the dataset.

Three core analytical dimensions guided coding:

1. **Problem Attribution** (e.g., governance failure, agricultural practices, citizen behaviour)

2. **Solution Framing** (e.g., technological innovation, lifestyle modification, policy reform, collective action)

3. **Calls-to-Action** (e.g., pledges, behavioural suggestions, participation prompts, sharing incentives)

Coding proceeded in two phases: exploratory open coding followed by structured codebook application (Krippendorff, 2018). To enhance reliability, selected posts were recoded at different intervals, and category definitions were refined iteratively. Particular analytical attention was given to satire, humour, emotional appeals, and youth-centric symbolic cues, given their documented influence in digital civic engagement (Bennett & Segerberg, 2012; Shifman, 2014).

While the study primarily analyses media texts rather than audience responses, interpretive connections are drawn to existing research on youth digital participation and environmental

behaviour (Corner et al., 2015; Lee et al., 2020). The approach is exploratory and interpretive rather than statistical, aiming to illuminate how vernacular digital environmental narratives are constructed and positioned to influence youth eco-behaviour in a context of acute urban ecological vulnerability.

All analysed materials are publicly accessible digital content. Ethical risk is minimal; however, copyrighted materials are not reproduced in full, and discussion remains analytical rather than promotional.

Data analysis and discussion

This chapter analyses 30 viral Hindi digital campaigns on air pollution and environmental action in Delhi NCR, focusing on how they frame problems, propose solutions, and invite youth participation. Collectively, these campaigns construct what may be described as a dense vernacular digital public sphere in which crisis narratives, policy debates, satire, and localized action are woven into an ongoing media discourse surrounding Delhi's recurring "pollution season." Such mediated constructions of environmental crisis align with research demonstrating how urban environmental issues are narrativized through cycles of urgency and public attention (Boykoff, 2011; Nisbet, 2009).

Dominant Problem Frames: Crisis, Responsibility, and Everyday Harm

Across the sample, air pollution is consistently framed as an immediate urban crisis rather than a distant ecological issue. Crisis-oriented language, alarming AQI graphics, and emotionally charged visuals dominate several campaigns, reinforcing the portrayal of Delhi's smog as a public health emergency. This pattern reflects broader media tendencies to emphasize dramatic and episodic framing during environmental crises (Boykoff, 2011; O'Neill & Nicholson-Cole, 2009). Framing Theory suggests that the definition of a problem significantly shapes audience interpretation and

response (Entman, 1993). In this dataset, three dominant strands of responsibility attribution emerge:

1. Governance and Policy Failure

Satirical reels and musical parodies frequently attribute responsibility to governmental inaction, bureaucratic delays, and weak enforcement. Such content aligns with the "accountability frame" commonly observed in environmental journalism, where state actors are positioned as primary agents responsible for crisis mitigation (Nisbet, 2009). Satirical critique functions as a form of political communication that blends affect with institutional scrutiny, enhancing engagement while maintaining critical distance (Highfield, 2016).

1. Collective Citizen Behaviour

Several campaigns frame pollution as partially resulting from everyday behaviours—private vehicle use, construction dust, firecracker burning, and non-compliance with regulations. This dual framing of structural and individual responsibility reflects what Billett (2010) identified in Indian climate reporting: a hybrid narrative that alternates between systemic failure and citizen accountability. By embedding pollution within daily practices, campaigns reduce psychological distance and position eco-behaviour as personally relevant (Corner et al., 2015).

1. Rural–Urban Interlinkages

Content addressing stubble burning constructs a cross-regional narrative linking rural agricultural practices to

urban smog. Such framing mirrors long-standing media debates in North India that spatialize blame while simultaneously highlighting interdependence (Boykoff & Roberts, 2007). The rural–urban linkage frame illustrates how environmental narratives often negotiate complex socio-political tensions within federated governance systems.

Together, these overlapping frames present pollution as a systemic yet intimate crisis—permeating schools, residential colonies, and daily commutes—thereby legitimizing both emotional reaction and civic participation among youth audiences.

- 1. Solution Frames: From Policy Plans to Everyday Eco-Actions

The analysed campaigns display a broad repertoire of solution frames, ranging from macro-policy interventions to hyper-local behavioural cues. Research in environmental communication emphasizes that constructive or solutions-oriented framing can increase efficacy perceptions and reduce despair (O'Neill & Nicholson-Cole, 2009).

Three clusters of solution frames are identifiable:

- 1. Regulatory and Infrastructural Solutions

Campaigns explaining GRAP measures, winter action plans, fines, and surveillance systems frame the state as a regulatory actor capable of intervention. This aligns with constructive journalism approaches that foreground problem-

solving alongside crisis reporting (McIntyre & Gyldensted, 2018). By translating bureaucratic language into accessible Hindi explainers, these campaigns mediate institutional communication for youth audiences.

- 1. Greening and Restoration

Plantation drives, sapling campaigns, and green expos frame ecological restoration as hopeful and participatory. Research suggests that positive imagery and visible environmental repair increase motivation for pro-environmental action (Hart & Feldman, 2016). By associating

greening with hashtags and youth participation, campaigns cultivate collective environmental identity (Fielding & Hornsey, 2016).

- 1. Waste and Circular Ecosystems

Posts addressing garbage mountains, biogas plants, and composting expand the discourse beyond air pollution to broader urban ecological systems. Framing environmental issues as interconnected systems corresponds with sustainability communication research emphasizing holistic ecological literacy (Cox, 2013).

By pairing macro-level policies with micro-level behavioural cues—carpooling, composting, RWA pledges—the campaigns reduce psychological distance, a key factor influencing environmental engagement (Spence et al., 2012).

- 1. Satire, Memes, and Emotional Resonance

Satirical and meme-based content emerges as a prominent strategy for addressing what scholars' term "green

fatigue”—desensitization arising from repetitive crisis messaging (Nisbet, 2009).

Humour operates as both coping mechanism and political critique (Highfield, 2016; Shifman, 2014).

The campaigns analysed employ:

- ◦ ■ **Hyperbole and irony** to dramatize normalized toxicity.
- **Everyday settings** (hostels, rooftops, neighbourhoods) to anchor critique in lived space.
- **Vernacular cultural references** to music and idioms, enhancing relatability.

Emotional framing has been shown to increase attention, recall, and sharing in digital environments (Berger & Milkman, 2012). High remix counts and participatory duets illustrate what Papacharissi (2015) describes as “affective publics,” wherein networked individuals mobilize around shared emotional narratives. In this context, youth move from passive consumption to memetic co-production, embedding environmental critique within popular culture.

- 1. Calls-to-Action: From Clicks to Collective Practices

Nearly all campaigns include explicit or implicit calls-to-action, though behavioural specificity varies. Digital participation formats—pledges, hashtags, challenges—mirror what Bennett and Segerberg (2012) describe as connective action, characterized by personalized engagement pathways.

Youth-oriented challenges, particularly selfie-driven environmental drives, reflect the performative dimension of digital activism. Theocharis (2015) argues that digitally networked

participation often blends civic engagement with identity construction. “Being seen to act” becomes central to eco-identity formation.

However, many calls-to-action remain symbolic rather than sustained. This echoes findings that expressive online participation does not automatically translate into consistent offline eco-behaviour (Corner et al., 2015). The tension between visibility and durability remains a structural limitation of digital environmental campaigns.

- 1. Youth Impact and Algorithmic Echo Chambers

Engagement patterns—remixes, reaction videos, college campaigns, RWA pledges—indicate that youth audiences actively reinterpret and circulate environmental content. Such practices align with participatory culture theory, which highlights user agency in digital meaning-making (Jenkins et al., 2016).

Yet algorithmic curation shapes exposure patterns. Platforms often reinforce homophily, generating echo chambers where content circulates among ideologically similar users (Pariser, 2011). Research on algorithmic personalization indicates that while engagement metrics increase, cross-cutting exposure may decline (Cinelli et al., 2021).

In this dataset, satire-driven content circulates widely on youth-heavy platforms such as Instagram and YouTube Shorts, whereas policy explainers attract more civically attentive audiences. This segmentation risks limiting message diffusion beyond already concerned publics. AI-enhanced targeting and cross-platform dissemination strategies may mitigate such fragmentation, though they raise normative concerns regarding data ethics and persuasive precision (Kreiss, 2016).

- 1. Framing, Vernacularity, and Eco-Behaviour

Overall, the 30 campaigns demonstrate how Hindi digital media constructs a vernacular environmental public in Delhi NCR. Crisis frames generate urgency; solution frames provide agency; satire and participatory formats create emotional resonance. These findings align with scholarship emphasizing the persuasive power of culturally embedded framing in shaping environmental understanding (Billett, 2010; Cox, 2013).

Youth responsiveness appears strongest when campaigns:

- ○ ■ Operate in linguistically familiar registers.
- Blend critique with humour and hopeful action.
- Connect macro-policy narratives to tangible daily practices.

However, without deliberate efforts to counter algorithmic silos and embed sustained behavioural scaffolding, the

transformative potential of such campaigns may remain partial. This

tension between high-engagement vernacular content and structurally constrained reach forms a critical bridge to the concluding chapter's discussion on strategic environmental communication and youth-centred policy design.

Conclusion and implications

This study examined how viral Hindi digital media campaigns frame environmental issues and potentially influence eco-behaviours among urban youth in Delhi NCR. Drawing on 30 high-reach posts and videos from leading Hindi news and institutional platforms, the analysis demonstrates how crisis narratives, solution frames, satire, and participatory formats collectively construct a vernacular environmental public sphere around Delhi's air pollution and related urban ecological challenges. This aligns with scholarship suggesting that environmental issues are mediated through culturally embedded public spheres rather than purely institutional channels (Cox, 2013; Papacharissi, 2015).

The campaigns consistently framed air pollution as an immediate public health crisis, using stark visuals, emotive language, and AQI indicators to communicate urgency. Research shows that crisis framing heightens perceived risk and public salience, particularly when environmental threats are localized and visually dramatized (Entman, 1993; O'Neill & Nicholson-Cole, 2009). Responsibility was distributed across

multiple actors—governments, regulatory agencies, citizens, and rural stakeholders—reflecting hybrid responsibility frames previously identified in Indian environmental reporting (Billett, 2010).

Solution frames translated technical policy instruments such as GRAP stages, winter action plans, construction dust regulations, and surveillance-based toll systems into accessible Hindi explainers, while foregrounding citizen-centred practices including carpooling, plantation drives, waste segregation, and community clean-up efforts. Such constructive framing aligns with research indicating that solution-oriented journalism enhances efficacy perceptions and mitigates climate fatigue (McIntyre & Gyldensted, 2018; Hart & Feldman, 2016).

A central conclusion is that satire, memes, and musical parodies are not peripheral but foundational to how youth encounter and negotiate environmental issues. Viral jingles, reaction videos, and

parody songs transform frustration and ecological anxiety into humorous, shareable digital artefacts. This reflects the dynamics of affective publics, where emotional expression drives networked circulation (Papacharissi, 2015), and the logic of spreadable media, where remixability amplifies engagement (Jenkins et al., 2016). Humour in political and environmental communication has been shown to increase attention and sharing while maintaining critical distance (Highfield, 2016; Shifman, 2014).

However, the findings also reinforce a recurring concern in digital activism scholarship: expressive participation does not necessarily translate into sustained behavioural change (Corner et al., 2015; Theocharis, 2015). While high remix counts and comment activity indicate strong affective engagement, many campaigns offered limited long-term behavioural scaffolding. This suggests a gap between symbolic eco-performance and embedded eco-practice.

Table 1. Extracted from document

Thematic framing of 30 viral Hindi digital campaigns on Delhi NCR environment			
Dominant Frame	Illustrative Campaign Type (Dataset Examples)	Observed Youth Impact	Theoretical Linkage
Crisis / Public Health Emergency Frame	AQI 450+ reels; “सांस मुहल” headlines; record pollution YouTube explainers	High emotional engagement; comment spikes; anxiety-driven sharing; rapid circulation during smog peaks	Crisis framing amplifies risk perception and urgency (Entman, 1993; O’Neill & Nicholson-Cole, 2009); episodic media attention cycles (Boykoff, 2011)
Governance Failure / Accountability Frame	Satirical jingles mocking inaction; posts critiquing GRAP enforcement gaps	Remix culture; political debate in comments; youth satire participation; meme replication	Accountability framing and affective critique (Nisbet, 2009); humour as political engagement tool (Highfield, 2016)
Collective Citizen Responsibility Frame	GRAP compliance explainers; construction dust posts; anti-firecracker reels	Behavioural discussion threads; carpool reel trends; RWA pledges; peer monitoring discourse	Hybrid responsibility narratives (Billett, 2010); reduced psychological distance (Spence et al., 2012)
Rural–Urban Interdependence Frame	Parali satire songs; stubble-burning debates	Cross-regional blame debates; youth commentary on policy equity; farm–city discourse participation	Attribution framing and politicization of environmental causality (Boykoff & Roberts, 2007)
Regulatory / Policy Solution Frame	Winter Action Plan explainers; ANPR toll	Informational engagement; saves and shares for reference; civic	Constructive journalism and solution-oriented

	system posts; construction fines	literacy enhancement	framing (McIntyre & Gyldensted, 2018)
Greening / Restoration Frame	Plantation drives; DDA green expo reels; #PedLagao campaigns	College participation; selfie- with-sapling trends; environmental identity performance	Collective environmental identity formation (Fielding & Hornsey, 2016); efficacy framing (Hart & Feldman, 2016)
Circular Economy / Waste-to- Energy Frame	“कूड़े के पहाड़” removal plans; biogas plant tours; composting DIY guides	DIY experimentation; educational sharing; eco-infrastructure awareness	Systems-based environmental communication (Cox, 2013); agency- enhancing frames

Table 2. Extracted from document

Satire / Meme- Based Frame	Qawwali-style smog remix; Gen Z reaction videos; ironic punchlines	High remix/duet counts; viral replication; memetic publics; emotional catharsis	Affective publics (Papacharissi, 2015); spreadable media logic (Jenkins et al., 2016); virality and emotional triggers (Berger & Milkman, 2012)
Challenge / Pledge-Based Participatory Frame	Yamuna सफाई selfie challenge; hashtag pledges	Offline participation evidence; peer validation; eco- identity signaling	Connective action (Bennett & Segerberg, 2012); digitally networked participation (Theocharis, 2015)
Performative Engagement Frame	Duets, reels, comment wars without sustained guidance	Short-term expressive activism; limited long-term behavioural continuity	Expression–behaviour gap in youth climate engagement (Corner et al., 2015)
Algorithmic Echo Chamber Dynamic	Youth-heavy meme spread on Instagram vs. policy explainers on YouTube	Segmented audience clusters; preaching-to-the- converted risk	Filter bubble / algorithmic homophily (Pariser, 2011; Cinelli et al., 2021)

Theoretical contributions

From a theoretical standpoint, this study extends Framing Theory in three significant ways. First, it demonstrates that environmental frames in digital vernacular contexts operate not only through textual and visual emphasis but also through memetic, musical, and challenge-based structures. Framing in digital spaces is multimodal and participatory, embedded in duets, remixes, reels, and hashtag challenges rather than solely in journalistic narratives (Entman, 1993; Chadwick, 2017).

Second, the findings contribute to scholarship on vernacular media by showing how language and cultural idioms shape environmental interpretation. Hindi storytelling, idiomatic punchlines, and culturally embedded humour enhance identification and reduce psychological distance, reinforcing the importance of localized communication in multilingual democracies (Cox, 2013; Spence et al., 2012).

Third, the study bridges Framing Theory with connective action frameworks (Bennett & Segerberg, 2012). The campaigns reveal how youth do not merely consume frames but actively remix and redistribute them, transforming top-down messaging into networked civic expression. This participatory reframing process complicates traditional sender–receiver models of environmental communication.

Practical implications

The findings yield several implications for Hindi newsrooms, campaign designers, and environmental communicators.

First, campaigns appear most effective when crisis framing is paired with specific, achievable behavioural cues. Research indicates that coupling threat information with efficacy-enhancing guidance increases the likelihood of behavioural response (Hart & Feldman, 2016).

Second, collaborations with youth creators, RWAs, student organizations, and local NGOs can help bridge the gap between online expression and offline action. Connective action scholarship emphasizes that digitally enabled participation becomes more durable when linked to institutional and community infrastructures (Bennett & Segerberg, 2012).

Third, algorithmic curation shapes exposure patterns. Echo chambers and homophily can limit cross-cutting dissemination of environmental content (Pariser, 2011; Cinelli et al., 2021).

Strategic AI-enhanced targeting and cross-platform seeding may help diversify reach, though such strategies raise normative considerations regarding persuasive precision and data ethics (Kreiss, 2016).

Policy implications

At the policy level, Hindi digital media should be recognized as a strategic pillar of environmental governance.

Government agencies—including information bureaus, environment departments, development authorities, and urban local bodies—can enhance public participation by integrating official data with youth-friendly vernacular formats. Research in environmental communication underscores that trust and participation increase when institutional communication aligns with culturally resonant storytelling modes (Cox, 2013).

Co-created campaigns that embed satire, reels, challenges, and localized storytelling within policy dissemination strategies may strengthen compliance with measures such as winter action plans, GRAP implementation, plantation targets, and waste management reforms.

Limitations and future research

This research is limited by its focus on 30 campaigns within a defined temporal window and by reliance on textual and

visual analysis rather than primary behavioural measurement. Future research should adopt mixed-method designs—combining content analysis with surveys, experiments, or longitudinal tracking—to assess how specific frames and formats influence youth attitudes and behavioural persistence over time (Krippendorff, 2018).

Comparative studies across languages, regions, and platforms would further illuminate how vernacular digital media ecosystems shape environmental citizenship in diverse socio-cultural contexts. As urban ecological crises intensify, understanding the interplay between framing, algorithmic distribution, and youth participation will be critical for designing sustainable communication interventions.

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