Discourse: Indonesian Journal of Social Studies and Education
Vol. 4 No. 1, November 2026, pp. 67-87
ISSN: 3032-6516, DOI: 10.69875/djosse.v4i1.571

Making Environment Meaningful: Everyday Environmental Communication Through Urban Farming in Palembang.

Raden Ayu Wulantari[1*], Armansyah[2]

[1]Departement of Communication Science, Faculty of Social Sciences and Politics, Universitas Sriwijaya, Indonesia
[2]Research Center for Population, National Research and Innovation Agency (BRIN), Indonesia

ARTICLE INFO

Article history:
Received: August 20, 2026
Revised: October 06, 2026
Accepted: November 01, 2026

Keywords:
Environmental Communication;
Meaning-Making;
Everyday Practice;
Urban Farming;
Urban Sustainability.

This is an open access article under the CC BY-SA license.
Copyright © 2026 by Author. Published by PT Citra Media Publishing.

ABSTRACT

Environmental communication is often approached as the transmission of information or persuasion about ecological problems. This study shifts the analytical focus by examining how "the environment" becomes meaningful when messages, material experience, social relations, and everyday practice meet in urban farming in Palembang, Indonesia. The corpus comprises 23 interview, field-conversation, and focus-group transcript files consolidated into 21 analytical cases. An abductive thematic analysis combined open coding, pattern coding, axial coding, cross-case comparison, negative-case analysis, and descriptive code prevalence and co-occurrence as data displays. Peer/community exchange appeared in 19 of 21 cases, knowledge circulation in 18, institutional coordination and sustainability barriers in 17 each, and adaptive innovation in 16. The findings show that the environment does not carry a single meaning. It becomes food that need not be purchased, a cooler home, waste that can be revalued, a learning space, a livelihood opportunity, meaningful activity, and an ecological condition to be negotiated. Meaning is strengthened when material experience validates messages, when practices become visible and discussable, when social or economic value is tangible, and when failure can be converted into learning. The study proposes a making-environment-meaningful framework that explains recursive relations among discourse, experience, material practice, social anchoring, feedback, adaptation, and institutional memory. The framework positions environmental communication not simply as messaging about a pre-given environment, but as a social process through which the environment becomes relevant, experiential, and livable in everyday urban life.

INTRODUCTION

Environmental communication has long examined media, rhetoric, public debate, framing, and the ways communication shapes environmental understanding and action. A central implication of this tradition is that "the environment" is not simply a biophysical object whose meaning is complete before communication begins. Representations, discourse, interaction, and framing influence what counts as an environmental problem, who is positioned as responsible, and which responses appear legitimate or practical (Hansen, 2018; Hansen, 2019; Hansen & Cox, 2015; Hansen, 2015; Peeples, 2015; Nisbet & Newman, 2015). Communication therefore has both instrumental and constitutive functions: it can circulate information, but it also helps construct environmental realities.

Corresponding author: Raden Ayu Wulantari
E-mail addresses: radenayuwulantari@fisip.unsri.ac.id

Recent scholarship strengthens this constitutive view. Environmental communication has been conceptualized as shared meaning-making emerging from interactions among actors, institutions, knowledge systems, and material concerns, opening analysis to power, disagreement, agency, and sustainability transformation (Fischer et al., 2024). Research on social constructions of ecosystems, green buildings, biodiversity, urban planning, and environmental assessment likewise shows that apparently stable environmental categories acquire historically and politically situated meanings (Robertson & Hull, 2003; Gustafsson, 2013; Stenberg & Räisänen, 2006; Xu & Chung, 2014; Rozema et al., 2012). These studies suggest that communication does more than package environmental knowledge: it helps constitute what environmental knowledge can mean in particular settings.

However, environmental interventions are still easily organized around a sender-message-receiver logic in which better information is expected to produce better attitudes or behavior. Evidence complicates that assumption. Reviews of environmental communication interventions report mixed behavioral outcomes and call for greater attention to context and actual practices (He et al., 2023). Public responses to air-quality information illustrate that audiences engage in sensemaking rather than simply absorbing facts (Bickerstaff & Walker, 1999), while recent work questions the assumption that differences between experts and publics are primarily knowledge deficits that more information can solve (Fisher et al., 2025). Reception studies similarly show that messages resonate differently because they interact with pre-existing representations, values, memories, and social identities (Verhoest et al., 2025; Olausson, 2020; Uren et al., 2019).

Meaning is also place-bound without being reducible to place. Local communities form categories such as natural, healthy, or sustainable through histories, livelihoods, and lived relationships with landscapes (Hull et al., 2001; Houghton, 2005). Local languages and needs interpret and rework global sustainability discourse (Ngai, 2020), while alternative environmental vernaculars can emerge from relations-in-place rather than from a strict human-nature separation (Milstein et al., 2011). Work in China likewise demonstrates that agricultural experience can sustain a human-nature unity frame different from nature-as-spectacle (Chen, 2017). These findings place everyday experience at the center of environmental meaning.

Material and embodied encounters deepen this process. Environmental meaning-making may develop through direct relations with place, through seeing environmental change, and through interpreting material signs in dialogue with others (Warren, 2026; Hellmann, 2024; Norton, 1996). Indonesian studies provide especially relevant parallels. Environmental communication among peatland communities can be organized through friendship, deliberation, mutual assistance, and empowerment (Yasir, 2020). Farmers in a conservation forest learn ecologically through work, peer networks, adaptation, intergenerational memory, and human-nonhuman relations (Patrick et al., 2026). Environmental meanings in the Upper Citarum are constructed through local wisdom and social institutions (Bakti, 2026), while praxis-based collaboration in Bali shows how communication can build collective environmental agency (Assegaf et al., 2026). Ecological piety in pesantren also demonstrates how meanings become objectified and internalized in concrete practices (Putri et al., 2023).

Urban farming offers an analytically productive setting for extending this scholarship because it brings sustainability discourse into immediate contact with food prices, limited space, household routines, waste, heat, water, markets, technologies, neighborhood relations, and institutional programs. The Palembang corpus includes commercial and semi-commercial hydroponics, household gardening, stingless-bee keeping, floating-rice experimentation, community food initiatives, integrated waste management, and gardening within social-care institutions. This heterogeneity enables comparison across practices that persist, adapt, become socially embedded, or cease.

The research gap is therefore not a lack of studies showing that environmental messages matter. Rather, less is known about the micro-social process through which an object called "the environment" acquires relevance after institutional discourse enters everyday life, and how material practices subsequently reshape that meaning. Studies of sustainability discourse, landscape negotiation, conservation interpretation, and ecosystem-service valuation already demonstrate that actors can hold divergent environmental frames with material consequences (Castán Broto et al., 2023; Langston et al., 2024; Grimm, 2013; Martin-Ortega et al., 2019; Santulli, 2025). What remains insufficiently specified is the recursive mechanism connecting environmental discourse, lived experience, material practice, social circulation, feedback, and adaptation in ordinary urban settings.

Building on this constitutive tradition, this study does not claim novelty in demonstrating that environmental communication forms meaning rather than merely transmits information. Its contribution is to specify the micro-social and recursive mechanism through which environmental relevance is produced, materially tested, socially circulated, revised through feedback and failure, and sustained through adaptation and institutional memory in everyday urban life. This formulation does not imply that the material environment is produced only through language. Plants still require water and light; floods damage gardens; pests destroy crops; markets reject products. Rather, material conditions become socially consequential as actors interpret them, connect them with values and needs, communicate those interpretations, and reorganize practice. Three questions guide the study: How is environmental meaning produced and negotiated through everyday urban farming in Palembang? Through what mechanisms is meaning materialized, circulated, and validated across households, communities, markets, and institutions? How do barriers and failures transform or interrupt environmental meaning and the continuity of practice? The study develops a making-environment-meaningful framework in which communicative continuity links recognition, translation, social anchoring, feedback, adaptation, and institutional memory as a recursive mechanism that repeatedly produces and sustains environmental relevance.

METHOD

This study used an interpretive qualitative design that combined abductive thematic analysis and cross-case comparison. The empirical corpus comprised 23 transcript files from semi-structured interviews, field conversations, and two focus-group discussions conducted in Palembang. The corpus represented commercial and semi-commercial hydroponic practitioners, stingless-bee keepers, household growers, food-program recipients, floating-cultivation communities, agricultural officials, technical program actors, an agricultural

academic, managers of social-care institutions, and residents participating in gardening and aquaculture activities. Several files were continuation interviews with the same actor and were consolidated to prevent double counting, resulting in 21 analytical cases.

The analytical case rather than the number of utterances was the principal unit of comparison. This decision addressed variation in transcript length and the focus groups' multi-voice structure. Coding therefore recorded whether a pattern was substantively present in a case rather than how many times a term occurred. The design is consistent with constitutive and cultural approaches to communication that privilege situated interpretation, relational processes, and meaning in practice over simple word frequency (Peeples, 2015; Carbaugh & Cerulli, 2017).

Analysis proceeded in three cycles. The first cycle used open coding close to participants' language, including learning from peers, attending training, sharing harvests, receiving orders, resowing, changing growing media, responding to pests, reusing waste, caring for residents, negotiating markets, and describing household, social, or environmental benefits. The second cycle used pattern coding to organize descriptive codes into eight categories: peer/community exchange; knowledge circulation; institutional coordination; sustainability barriers; adaptive innovation; market/economic feedback; environmental meaning/circularity; and social inclusion/care. The third cycle used axial coding to examine relationships and temporal sequences among categories: how a program message became a feasible action, how practice generated feedback, how failure led to renewed learning, and how social relations sustained access to knowledge. This process was informed by work on interactional framing, shared meaning construction, and cultural communication practices (van Vuuren-Verkerk et al., 2021; Fischer et al., 2024; Carbaugh & Cerulli, 2017).

Negative cases were treated as tests of the argument rather than as noise. Analysis deliberately examined cases in which material support was available. However, the practice did not persist; information was provided, but maintenance remained difficult, promoted commodities did not match participant interests, household time constrained care, or ecological disturbance was not converted into learning. This distinction matters because different interpretations of conservation, mismatches in communicator-audience values, and sensemaking processes can shape material outcomes even when information has been delivered (Grimm, 2013; Packer et al., 2022; Hoover, 2017). Failure was therefore examined as a possible mismatch among message, experience, capacity, and everyday structure rather than presumed to indicate a lack of environmental awareness.

For descriptive data display, each analytical category received a score of 1 when substantively present and 0 when evidence was absent or insufficient in a case. The resulting matrix was used to calculate code prevalence and pairwise co-occurrence. These values are not population estimates, and no inferential statistics were applied. They serve to audit the breadth of qualitative patterns and make comparisons transparent. Peer/community exchange appeared in 19 of 21 cases, knowledge circulation in 18, institutional coordination and sustainability barriers in 17 each, adaptive innovation in 16, market/economic feedback in 12, environmental meaning/circularity in 9, and social inclusion/care in 3. Co-occurrence was interpreted alongside narrative sequence, negative cases, and cross-case contrasts rather than treated as causal evidence.

Analytical integrity required separating corpus evidence from theoretical interpretation. Claims about economic, health, or program effects were treated as participant experiences unless the corpus corroborated them. Ambiguous names, dates, or numerical details were not forced into precision where transcription quality did not support it. Equally, the analysis did not restrict environmental communication to passages containing the word environment. Segments were included when participants connected material aspects of urban farming to values, relations, decisions, or lived meanings. This interpretive principle is consistent with studies showing that public understandings of nature and environmental learning can be embedded in local indicators, routine work, peer networks, and adaptation (Hull et al., 2001; Patrick et al., 2026). Direct quotations used in the Results are translated from Indonesian into English; speaker-specific dialect and colloquial phrasing are retained as closely as possible, with light punctuation added for readability.

Table 1. Composition of the qualitative corpus and analytical roles of actor groups

Actor/data category	Analytical cases	Illustrative sources	Principal analytical contribution
Practitioner/commercial networks	6	Hydroponic pioneers and centers; beekeeping; community practitioners	Long-term learning trajectories, market formation, peer mentoring, technical adaptation
Household/neighborhood growers	7	*Kampung Aer* residents; household gardens; youth/floating cultivation groups	Self-consumption, savings, sharing, local motivation, constraints of space and time
Government/technical program actors	2	Provincial GSMP technical team; city agricultural office	Program design, extension, participant selection, coordination, institutional continuity
Academic/expert actor	1	Agricultural academic	Critical perspective on targeting, mentoring, social fit, and long-term facilitation
Social-care/inclusion contexts	3	PGOT management, urban-farming managers, resident perspectives	Interaction, meaningful work, routine, inclusion, institutional support
Focus-group discussions	2	Palembang FGD 1 and 2	Cross-sector validation and sustainability priorities

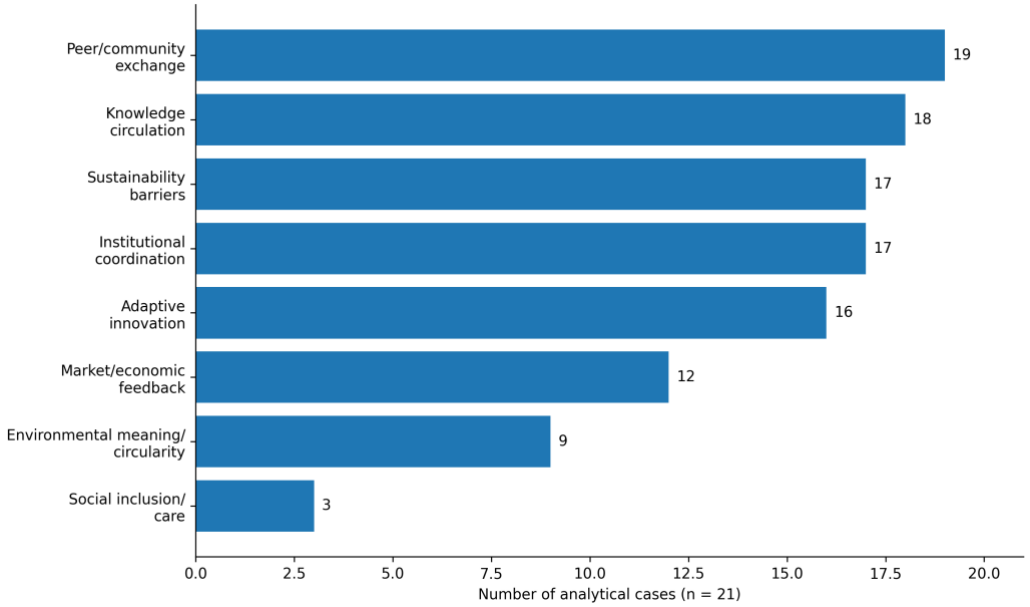


Figure 1. Qualitative code prevalence across 21 consolidated analytical cases. Values indicate substantive case-level presence, not utterance frequency.

Table 2. Qualitative codebook and cross-case prevalence

Code	Operational meaning	Cases (n=21)	Indicative evidence pattern
Peer/community exchange	Family learning, sharing with neighbors, imitation, group work, informal advice	19	Observation, discussion, sharing, and peer support circulate practice.
Knowledge circulation	Training, demonstration, internship, guidance, troubleshooting, peer instruction	18	Continuity repeatedly depends on learning and relearning.
Institutional coordination	Government, extension, CSR, universities, formal groups, cross-sector links	17	Support is more durable when linked with mentoring and monitoring.
Sustainability barriers	Time, weak follow-up, unsuitable space, low interest, ecological/technical failures	17	Practice becomes inactive when problems do not trigger corrective action.
Adaptive innovation	Changes in crops, media, infrastructure, water, technology, or organization	16	Pests, floods, heat, soil conditions, and market signals stimulate redesign.
Market/economic feedback	Orders, intermediaries, supermarkets, direct sales, savings, prices, demand-based crop choice	12	Savings or demand validate effort and influence planting decisions.

Code	Operational meaning	Cases (n=21)	Indicative evidence pattern
Environmental meaning/circularity	Greening, cooling, waste reduction, compost, biodiversity, resource reuse	9	Environmental value makes cultivation meaningful beyond income.
Social inclusion/care	Meaningful activity, interaction, rehabilitation, participation of vulnerable groups	3	Working together and communication become explicit outcomes.

RESULT

Communicative Processes across Diverse Urban-Farming Practices

Across highly diverse forms of urban farming, the most consistent commonality was communicative rather than technological. Peer/community exchange occurred in 19 of the 21 cases, knowledge circulation in 18, institutional coordination and sustainability barriers in 17 each, and adaptive innovation in 16. Hydroponics, beekeeping, floating rice, household gardens, waste-linked cultivation, and social-care gardening differ materially, yet all depend on learning, interpretation, relationships, and feedback. The pattern supports a view of environmental communication as practice that helps organize human-environment relationships rather than as persuasive messaging alone (Fischer et al., 2024).

Long-running hydroponic cases make this process especially visible. Practitioners described trajectories of reading, asking questions, visiting other growers, attending training, forming communities, demonstrating systems, mentoring new growers, and gradually developing markets. Production sites became learning spaces for schools, students, interns, and community visitors. Technical competence was not a one-time acquisition; growers revised it as they encountered real problems. Beekeeping showed a parallel trajectory. Knowledge of colonies, vegetation, honey quality, harvest timing, packaging, and markets grew through friends, associations, experimentation, and training. In both cases, the urban environment was not merely described as ecological; it was learned through practice.

From Institutional Messages to Everyday Environmental Meaning

At the program level, explicit messages included food self-reliance, reduced household expenditure, greening, environmentally friendly production, and a shift from buying to growing. At the household level, however, these ideas took concrete forms. Food self-reliance could mean not buying chilies for a period, harvesting vegetables directly, or retaining more household cash. Greening could mean feeling a cooler frontage at home. Waste value could mean compost, maggots, fish feed, or resources for community activity. Empowerment could mean meaningful work and daily structure for residents in social-care institutions. The shift from policy language to kitchen, yard, market, and institutional routine shows how local actors interpret broader sustainability discourse (Ngai, 2020).

This translation process was explicit in program practice. One technical actor described asking participants what they were actually willing to maintain: “Do you want chickens, fish, the full package, horticulture, or what? [If they say] ‘I only want plants,’ then we give plants.

Do not spend capital on people who do not want to care for fish and chickens" (government/technical program actor, FGD; translated from Indonesian).

One household case illustrates this conversion clearly. An initial greening motive evolved into what may be described as useful greening: plants were valued because they provided household ingredients or fruit while also making the home environment feel cooler. Ecological and utilitarian values were not experienced as competing categories. They reinforced one another through the same plants. Such evidence parallels work showing that human-nature relationships are grounded in lived experience and relations-in-place rather than solely in formal environmental frames (Chen, 2017; Milstein et al., 2011).

A household grower narrated the shift from abstract greening to personally consequential value in especially concrete terms: "At first it was for greening … [then] plant what can be used for daily needs. … Almost two years [we] never bought chilies. … With plants, the front of our house becomes cooler." (household grower, interview; translated from Indonesian).

Material Practice, Social Anchoring, and Feedback

Material practice itself functioned as a communication medium. Polybags, hydroponic pipes, vegetables, honey, compost, waste-bank materials, fish ponds, floating-rice rafts, and institutional gardens were simultaneously productive objects and communicative displays. People could see them, touch them, taste results, ask questions, imitate techniques, or observe failure. Focus-group participants described imitation sequences in which visible success prompted questions and later experimentation. Communication therefore did not always precede practice; practice frequently generated communication. This observation resonates with place-based and experiential environmental meaning-making, where physical encounters can challenge existing narratives and generate knowledge through experience and dialogue (Warren, 2026; Norton, 1996).

Materiality could also contradict or revise messages. Plants died, transported fish failed, rats damaged floating rice, floods destroyed cultivation, and household routines constrained maintenance. These events generated new information. The environment was not a passive object waiting to be represented; it provided material feedback that actors had to interpret. Urban farming thus became an epistemic arena in which claims about what is feasible were continually tested. Visual and material narratives of environmental change similarly demonstrate that meaning and identity are shaped through encounters with evidence that people can perceive and remember (Hellmann, 2024).

Social anchoring was equally important. Residents learned from family members, neighbors, community leaders, more experienced practitioners, extension actors, customers, and institutions. Harvests were shared, technical problems discussed, crop choices suggested, and visible successes narrated. Practices were more likely to persist when embedded in trusted relations. Peer/community exchange, the most prevalent code, therefore did more than transmit cultivation instructions; it helped define who could speak with authority and how environmental practice could gain social recognition.

A community mentor described this social anchoring as a deliberate strategy of circulation: "At the beginning, give [the vegetables] to neighbors, family, friends … once they have tasted them, they feel, 'wow, this is good.' That was how we started … then there were

people who began [growing], and we brought them in." (urban-farming community leader, interview; translated from Indonesian).

Identity sometimes emerged through this process rather than preceding it. Practitioners who began as learners became people whom others consulted. Waste-management actors described environmental engagement as a passion that grew from concern about waste. Household growers spoke of pleasure, habit, and the satisfaction of sharing. These trajectories align with evidence that environmental identity is socially and culturally constructed and can both enable and constrain pro-environmental practice (Uren et al., 2019). They also echo praxis-based accounts in which dialogue, work, and storytelling contribute to collective agency (Assegaf et al., 2026).

The emergence of environmental identity was particularly visible in a waste-management case. A participant explained that "the environment became a passion … whether we are supported or not, we have to keep going," linking that commitment to "a concern about the waste problem" in Palembang (waste-management actor, FGD; translated from Indonesian).

Feedback validated meaning in several forms. At household level, the most immediate signals were food availability, reduced expenditure, and the ability to share. Even modest savings could be meaningful because they were recurring and tangible. In commercial cases, feedback arrived through orders, repeat customers, supermarkets, restaurants, intermediaries, and price signals. Market information influenced what was planted and when it was harvested. However, the corpus does not support treating commercialization as the only valid outcome. Many practices were sustained by enjoyment, household consumption, environmental comfort, education, social recognition, or care. This plurality is consistent with research showing that environmental value can be simultaneously pragmatic, normative, and resistant to full commodification (Martin-Ortega et al., 2019).

Commercial growers described market response as an immediate test of whether practice was worth expanding. One hydroponic practitioner recalled: "I tested it in the market and the demand was good … I started thinking again: if it is good in the traditional market … this is positive, the opportunity is good." He later organized planting in response to demand rather than to grow preferred crops (commercial hydroponic practitioner, interview; translated from Indonesian).

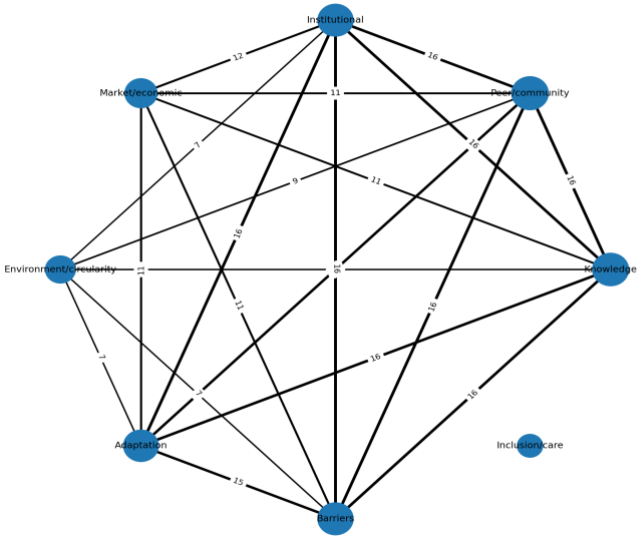


Figure 2. Co-occurrence network among major codes. Node size reflects case-level prevalence; line weight and labels indicate the number of cases in which two codes co-occurred.

Interpretive Friction and Adaptive Learning

Interpretive friction emerged when environmental messages or technologies did not fit everyday life. A household could receive plants without developing the practical competence required to maintain them. A grower could understand the benefits yet stop because other work consumed available time. A promoted commodity could be technically feasible but socially unattractive. Dense urban housing could lack light or space. Wetland conditions, floods, pests, electricity costs, growing media, and market access could all change whether a practice appeared worth continuing. These cases align with findings that value mismatches reduce message resonance and that more information does not automatically solve participation problems (Packer et al., 2022; Fisher et al., 2025).

Place intensified these differences. A house with a yard, a dense dwelling without adequate light, a seasonally wet site, a flood-prone area, and a location close to markets create different possibilities. Sustainability can therefore not be operationalized as a uniform household package. Place-based scholarship shows that local social-spatial conditions and power relations shape what sustainability can mean and what actions become feasible (Houghton, 2005). In Palembang, the same policy language met different spatial and livelihood realities, producing divergent interpretations.

Adaptive innovation appeared in 16 cases and frequently co-occurred with sustainability barriers. Hydroponic practitioners modified protective structures, nutrient routines, water systems, and crop choices. Floating-rice groups changed materials and protection after pest damage. Honey producers modified harvest timing in response to quality. Waste-management actors redesigned activities after flooding. In persistent cases, failure was read, discussed, and converted into a new trial. In cases that stopped, disturbance did not acquire an interpretive pathway capable of producing corrective action. Adaptation was therefore not merely technical capacity; it was communicative capacity to turn experience into workable knowledge. Interactional framing and sensemaking scholarship

helps explain why reframing can redirect environmental action (van Vuuren-Verkerk et al., 2021; Hoover, 2017).

The conversion of disturbance into a new trial is visible in one participant's account: "About a year ago [the crop] was attacked by pests; my chili plants were finished. I switched again … I wanted to plant something else." In a separate waste-linked cultivation case, flooding "finished everything," after which the group described trying to arrange and rebuild the site again (urban-farming participants, FGD; translated from Indonesian).

Institutional Memory and the Meaning-Making Cycle

Institutional coordination involved government, extension actors, corporate social responsibility programs, universities, formal groups, communities, and businesses. These institutions provided tools, training, legitimacy, market access, and monitoring, but the transcripts also described discontinuity: projects could end with budgets, mentoring could become fragmented, and conventional administrative group structures did not always match dispersed practitioner networks. The distinction between institutions as distributors and institutions as communicative memory is therefore important. Distribution delivers resources; communicative memory retains knowledge about who has expertise, what failed before, where markets exist, and how participants can reactivate support. Environmental governance research similarly shows that sustainability purposes are constructed through interaction among public participation, policy, science, and normative assumptions (Rozema et al., 2012; Langston et al., 2024).

What mattered after distribution was the continuing ability to reactivate expertise. One program actor told participants, "If [the plant] is sick, contact us immediately; later the agricultural extension officer will come." A community mentor described the same logic for markets: when new growers asked, "Where do I sell this?", the response was, "Bring it here," while mentoring continued. These accounts show institutional memory as retained access to people, troubleshooting, and market connections rather than as stored information alone (government/technical actor, FGD; community leader, interview; translated from Indonesian).

Cross-case synthesis identifies six recursive movements. First, recognition occurs when actors identify a locally meaningful problem or opportunity: food costs, heat, waste, wetland conditions, unused space, livelihood opportunities, or the need for meaningful activity. Second, translation adapts knowledge and messages to local commodities, capacities, space, and resources. Third, social anchoring embeds practice in families, peer groups, schools, workplaces, communities, markets, or institutions. Fourth, feedback makes value visible through food, savings, income, comfort, learning, recognition, or environmental improvement. Fifth, adaptation converts disturbance into revised practice. Sixth, institutional memory preserves access to expertise, relationships, and markets so that practice does not return to zero after a project cycle. These movements explain the communicative continuity identified in the original analysis.

The more consequential interpretation is that this cycle makes the environment meaningful. When the cycle remains active, the environment appears as something relevant, experiential, and worth maintaining. When it breaks, physical infrastructure may remain while practice loses meaning. The result therefore extends beyond a model of program

sustainability. It identifies a recursive social process through which environmental relevance is repeatedly produced, questioned, repaired, and circulated in everyday urban life.

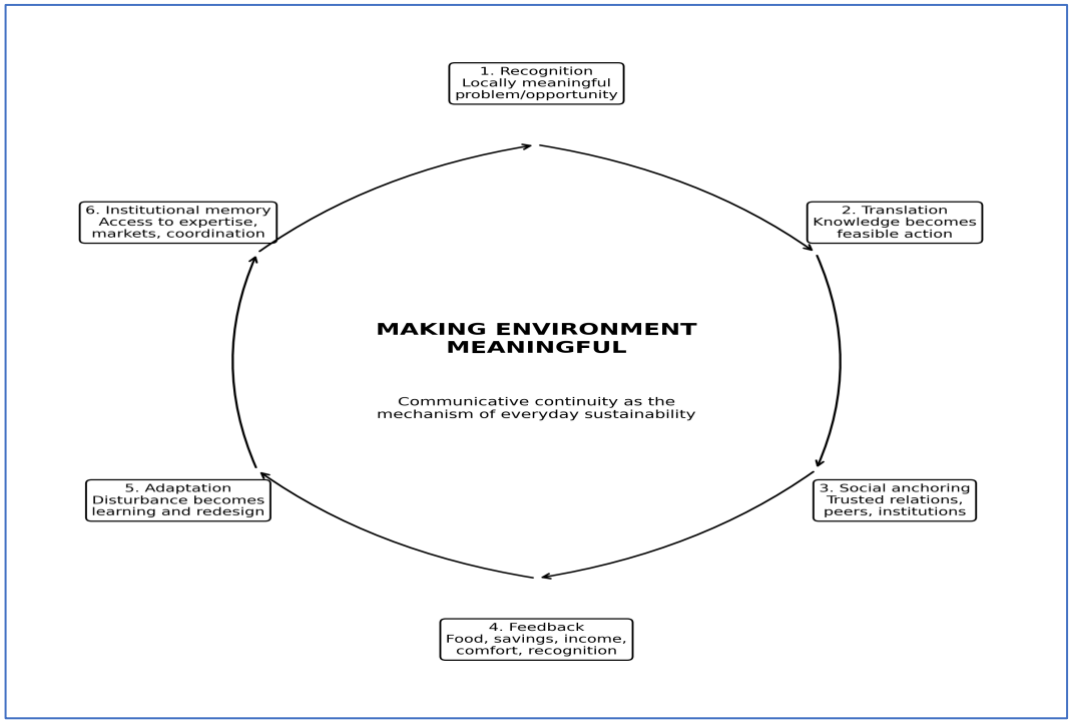


Figure 3. Urban environmental communication continuity cycle. The six movements operate recursively through which the environment remains meaningful in everyday practic.

DISCUSSION

The Recursive Production of Environmental Relevance

This study's principal theoretical contribution is not the general claim that environmental meaning is communicatively constituted, an insight already established in social-construction and environmental communication scholarship (Hansen, 2015; Robertson & Hull, 2003; Hull et al., 2001). Rather, the Palembang cases specify how constitutive communication operates as a micro-social, recursive process in everyday material practice. Environmental relevance emerges through repeated movements in which actors recognize locally consequential problems or opportunities, translate knowledge into feasible action, anchor practices in social relations, encounter material and social feedback, adapt after disturbance, and retain learning through institutional memory. A harvested chili, waste converted into feed, a cooler yard, or a raft redesigned for wetland conditions is therefore not simply an illustration of environmental meaning; it is part of the process through which environmental relevance is tested, validated, revised, and made durable.

Making environment meaningful is therefore not a claim that the environment exists only through discourse. Material conditions retain causal force. Water, light, pests, flooding, growing media, and market response constrain action irrespective of how actors describe them. The argument instead concerns social relevance. Material conditions enter collective life through interpretation, communication, and decisions about what to do next. This

position avoids choosing between social construction and biophysical reality by treating communication as the process that connects them.

This perspective also explains why meaning-making is analytically stronger than awareness for this corpus. Awareness models often imply a sequence from information to knowledge, attitudes, and behavior. The cases do not follow a linear pathway. Some practitioners began from hobbies, food needs, curiosity, family experience, livelihood opportunities, or concern about waste rather than an environmental campaign. Some recipients understood program intentions but lacked time, space, maintenance competence, or market support. Others developed environmental identity after sustained practice. Research on sensemaking, behavioral intervention, and the knowledge-deficit assumption supports skepticism toward simple information-to-action models (Bickerstaff & Walker, 1999; He et al., 2023; Fisher et al., 2025).

The data therefore add a mechanism to existing critiques of linear information-to-action models: environmental relevance is recursively produced when interpretation is tested against experience and then re-enters communication and practice. People may know that growing food is environmentally beneficial without growing anything. Conversely, they may garden consistently because the household feels cooler, expenditure falls, or the activity creates social connection without using sustainability vocabulary. What matters analytically is not accurate repetition of an environmental message, but whether experience generates credible feedback that can be socially interpreted, circulated, and incorporated into subsequent action.

Plural Meanings and Practice as Communication

Plural meanings are therefore not necessarily a communication problem. Urban farming meant food and savings for some actors, sociality and mutual assistance for others, professional markets for commercial growers, circularity for waste actors, meaningful activity in social-care settings, and experimental adaptation for floating-rice groups. Similar pluralities have been documented in local sustainability interpretation, human-nature conceptions, and conservation practice (Ngai, 2020; Chen, 2017; Grimm, 2013; Veldman, 2016). A program may be more durable when its environmental objective can be attached to several locally legitimate values rather than forcing a single standardized definition.

Practice must also be recognized as a medium, not merely an effect of communication. Gardens, technologies, crops, waste transformations, and harvests provide public evidence. They invite observation, questions, imitation, evaluation, and storytelling. Experiential environmental communication shows that embodied encounters with place can generate knowledge not reducible to formal media messages (Warren, 2026). Cultural Discourse Analysis likewise highlights everyday communication as a site where actions, relations, feelings, identities, and dwelling become meaningful (Carbaugh & Cerulli, 2017). The Palembang corpus shows that objects and routines can therefore have communicative reach beyond their physical footprint.

Affective experience adds another layer. Pleasure in growing, passion for waste issues, pride in results, comfort from shade, frustration with pests, and the feeling of being useful all shaped interpretations of practice. Emotions in environmental communication are socially situated and cannot be reduced to instruments for producing predetermined behavior

(Graminius & Wullenkord, 2026). Visual narratives likewise connect environmental change with collective memory and identity (Hellmann, 2024). In Palembang, affect sometimes developed into environmental identity over time, suggesting that identity is not only an antecedent of environmental behavior but can be an outcome of repeated meaning-making.

Relational communication also reorients environmental governance. Government, extension services, communities, universities, CSR actors, markets, and households do not simply occupy separate stages of a delivery chain. They interpret and translate one another. Indonesian studies have shown that friendship, deliberation, local institutions, and praxis can organize environmental communication and collective agency (Yasir, 2020; Bakti, 2026; Assegaf et al., 2026). The Palembang cases add institutional memory: after initial training or distribution, participants need relationships that remember expertise, past failures, suitable crops, market connections, and troubleshooting pathways.

Networked sustainability storytelling offers a related vocabulary for how environmental value can circulate through networks and narrative authority (Piscè & Olivari, 2025). In urban farming, stories of successful harvests, failed crops, adapted technologies, savings, and social benefits travel through peer groups and digital messaging as well as face-to-face interaction. These narratives matter because they connect abstract sustainability with evidence that others recognize as credible.

Failure, Governance, and Unequal Communicative Opportunity

Failure should consequently be reframed as an ordinary communicative event rather than as a deviation from a successful program. Barriers and adaptive innovation strongly overlapped across the corpus. When failure was discussed, interpreted, and linked to expertise, it could generate redesign. When it remained individualized or unsupported, it more often ended participation. Interactional reframing can transform environmental encounters (van Vuuren-Verkerk et al., 2021), while dialogic analysis shows that sustainability concepts themselves can be inverted and reinterpreted in competing discourse (Santulli, 2025). Adaptation in this study can therefore be defined as the communicative conversion of experience into a revised interpretation that can be acted upon.

The framework also requires attention to power. Not every actor has equal capacity to make environmental meanings consequential. Experienced practitioners often possess dense networks of customers, suppliers, peers, universities, and officials. Low-income households may receive material support without equivalent troubleshooting networks. Residents in dense settlements have less spatial flexibility. People facing immediate livelihood pressures may evaluate productive assistance within a shorter time horizon than program designers. Environmental frames are always connected to questions of authority, justice, and whose interpretation enters decision-making (Taylor, 2000; Rozema et al., 2012; Langston et al., 2024). Making environment meaningful is therefore not a neutral process; it unfolds within unequal structures of communicative opportunity.

This power-sensitive reading strengthens the practical implications. Programs should diagnose meaning before distributing technologies. They should ask what problem participants are trying to solve, what environmental relationship already matters, what constraints structure daily life, and what form of value would make continued practice credible. Communication should provide experiences rather than explanation alone:

demonstrations, accessible trials, early harvests, peer mentoring, and visible feedback allow participants to test a message. Local mentors and peer networks should be treated as core infrastructure, not supplementary volunteers.

Feedback also needs to be plural. Household growers may need to see food availability and savings; commercial producers require information about demand and price; social programs need participation and meaningful activity; waste initiatives need visible material transformation; community projects may value sharing, learning, or neighborhood recognition. These different outcomes should not be collapsed into a single commercialization metric. The very pluralism that complicates evaluation can also support sustainability by letting environmental practice attach to multiple everyday concerns.

Everyday Environmental Communication and Theoretical Implications

Monitoring should further capture failure as information. When plants die, markets change, pests emerge, or participant time decreases, the appropriate response is not necessarily to repeat the original message. Programs need channels for participants and facilitators to reinterpret what happened and modify practice. Institutional memory should preserve this learning across staff rotation and project cycles through mentor directories, troubleshooting records, community communication channels, buyer networks, and recurring cross-actor forums.

Conceptually, the study proposes everyday environmental communication as an analytical space connecting environmental communication with lived practice. The term refers to small communicative acts that may not explicitly invoke the environment: asking a neighbor about a diseased leaf, giving someone vegetables, notifying a buyer about a harvest, inviting a resident of a social institution to work in the garden, changing growing media after an experiment, or retaining the contact of a knowledgeable mentor. Cumulatively, these acts configure relationships with food, waste, land, water, nonhuman species, institutions, and one another. This interpretation resonates with environmental education as lived practice and with locally grounded constructions of environmental meaning in Indonesia (Patrick et al., 2026; Bakti, 2026).

This mechanism yields four theoretical propositions. First, environmental relevance is recursively produced when discourse is translated into locally actionable terms and tested through material experience, rather than remaining abstract or pre-given. Second, material practice functions as an epistemic and communicative test: sensory, economic, social, and ecological feedback can validate, complicate, or contradict prior interpretations. Third, relevance becomes socially durable through anchoring in trusted relations and through plural forms of value, so sustainability need not depend on actors reproducing a single environmental definition (Houghton, 2005; Ngai, 2020; Milstein et al., 2011). Fourth, communicative continuity repairs and reproduces relevance over time: knowledge circulation, feedback, adaptation, and institutional memory enable actors to reinterpret disturbance and carry workable knowledge beyond an initial intervention.

Limitations and Future Research

Several limitations qualify these claims. The corpus is purposive and heterogeneous, so code prevalence cannot be generalized statistically to Palembang's population. Some

reported benefits remain participant perceptions. The available transcripts do not constitute a formal longitudinal design capable of tracing meaning change at standardized intervals. The making environment meaningful framework should therefore be treated as a grounded conceptual proposition requiring comparative and longitudinal testing. Future research could follow how environmental meanings move among government, households, communities, markets, and nonhuman/material conditions over time, and could employ participatory frame-mapping techniques that make competing interpretations explicitly negotiable (Langston et al., 2024). Such work matters as environmental problems increasingly show the ambiguity and contested causality associated with wicked issues (Ballantyne & Péronard, 2023).

CONCLUSION

Urban farming in Palembang is not only a food-production practice or an environmental program. It is an arena in which environmental relevance is continually produced through relations among discourse, material experience, social networks, markets, institutions, affect, and adaptation. Across 21 analytical cases, the most widely distributed processes were peer exchange, knowledge circulation, institutional coordination, negotiation of sustainability barriers, and adaptive innovation rather than any single technology.

These findings therefore do not establish that environmental communication is constitutive rather than merely transmissive. It is to specify the micro-social and recursive mechanism through which environmental relevance becomes consequential in everyday life. In the Palembang cases, the environment became food that need not be purchased, a cooler home, waste that can be transformed, a learning space, a livelihood opportunity, meaningful work, or an ecological condition that demands experimentation. These meanings became consequential as they were tested through experience, interpreted with others, and connected to subsequent decisions and practices.

The making environment meaningful framework specifies this mechanism through six recursive movements: recognizing a locally meaningful problem or opportunity, translating knowledge into feasible action, social anchoring, feedback, adaptation, and institutional memory. Experience modifies interpretation; interpretation reorganizes practice; practice generates further material and social feedback; and accumulated learning can be retained and reactivated through relationships and institutions. Sustainability is therefore approached here not as a static end-state, but as the capacity to sustain this recursive production, repair, and circulation of environmental relevance.

For environmental communication scholarship, the framework adds processual specificity to established constitutive approaches by showing how meaning is materially tested, socially circulated, revised after failure, and carried forward through communicative continuity. Communication is not a symbolic layer added to technical activity; it organizes how feedback is interpreted, whose knowledge is trusted, how problems are reframed, and whether learning remains available for subsequent action. For urban policy, the implication is equally direct: evaluation should ask not only how many messages, trainings, inputs, or harvests were delivered, but whether participants can experience benefits, access trusted

support, circulate outcomes, reinterpret failure, adapt practice, and retain knowledge after formal projects end.

Everyday environmental communication operates at this recursive junction between discourse, material experience, social relations, and institutional continuity. Its significance lies not simply in speaking about the environment, but in sustaining the processes through which environmental relations remain relevant, testable, discussable, negotiable, and capable of being renewed in the ordinary life of the city.

DECLARATION OF INTEREST

The authors declare no conflict of interest regarding the research, authorship, and publication of this article.

ETHICAL CONSIDERATION

This study involved non-interventional social research based on interviews and focus group discussions. The authors did not obtain formal institutional ethical clearance before data collection. The authors disclose this circumstance transparently and do not claim retrospective ethical approval, exemption, or waiver. The study did not involve clinical procedures, biomedical interventions, or experimental treatment. For publication, the findings are reported in a manner that minimizes unnecessary disclosure of personally identifying information and uses the interview and discussion materials solely for scholarly analysis. The authors accept responsibility for the ethical handling, interpretation, and reporting of the data and will provide any additional documentation or clarification the journal requests.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES

Generative artificial intelligence tools were used during manuscript preparation to help organize the interview and focus-group corpus, support qualitative coding and cross-case synthesis, draft and restructure sections of the manuscript, edit language, organize references, and prepare analytical visualizations. AI-generated outputs were not accepted automatically. The authors reviewed the outputs against the original research materials. They cited sources, made the final interpretive and editorial decisions, and took full responsibility for the accuracy, integrity, arguments, analyses, and conclusions presented in this article. Generative AI is not listed as an author and did not independently collect research data.

REFERENCES

Assegaf, A. H., Sarwoprasodjo, S., Kinseng, R. A., & Dharmawan, A. H. (2026). River as collaboration hub: how does praxis-based communication build collective agency for environmental movement?. Environmental Sociology. https://doi.org/10.1080/23251042.2026.2619707

Bakti, I. (2026). Constructing environmental communication meanings through local wisdom and social institutions in the Upper Citarum Watershed. Asian Anthropology. https://doi.org/10.1080/1683478X.2026.2614902

Ballantyne, A. G., & Péronard, J. D. C. (2023). Can Communication Theory Advance Research When Environmental Issues Become Wicked? The Case of Microplastics. Science Communication, 45 (2), 267–276. https://doi.org/10.1177/10755470221138271

Bickerstaff, K., & Walker, G. (1999). Clearing the smog? Public responses to air-quality information. Local Environment, 4 (3), 279–294. https://doi.org/10.1080/13549839908725600

Carbaugh, D., & Cerulli, T. (2017). Cultural Discourse Analysis. The International Encyclopedia of Intercultural Communication, 1–9. https://doi.org/10.1002/9781118783665.ieicc0117

Castán Broto, V., Westman, L., & Huang, P. (2023). How hegemonic discourses of sustainability influence urban climate action. Buildings and Cities, 4 (1), 973–989. https://doi.org/10.5334/bc.390

Chen, S. (2017). Toward multiple conceptions of the human-nature relationship: The "human-nature unity" frame in a Chinese village. International Journal of Communication, 11, 4481–4498.

Fischer, A., Joosse, S., Hallgren, L., & Westberg, L. (2024). How research on communication can help to understand the management of natural resources and sustainability transformations: practices, concerns and new perspectives on environmental communication. Journal of Environmental Planning and Management, 67 (9), 1871–1885. https://doi.org/10.1080/09640568.2024.2345737

Fisher, A. C., Jacobs, S., & Remillard, C. (2025). Mind the gap: questioning the existence of a 'knowledge deficit' in conservation social media message evaluation by scientist, science-trained, and general public audience groups. Cogent Social Sciences, 11 (1), Article 2480727. https://doi.org/10.1080/23311886.2025.2480727

Graminius, C., & Wullenkord, M. C. (2026). Beyond instrumentalizing "good" and "bad" emotions: Towards a social, multi-affective, contextual approach to emotions in environmental communication. Ambio. https://doi.org/10.1007/s13280-026-02444-5

Grimm, K. (2013). Doing 'conservation': Effects of different interpretations at an ecuadorian volunteer tourism project. Conservation and Society, 11 (3), 264–276. https://doi.org/10.4103/0972-4923.121029

Gustafsson, K. M. (2013). Environmental discourses and biodiversity: The construction of a storyline in understanding and managing an environmental issue. Journal of Integrative Environmental Sciences, 10 (1), 39–54. https://doi.org/10.1080/1943815X.2013.769455

Hansen, A. (2015). COMMUNICATION, MEDIA AND THE SOCIAL CONSTRUCTION OF THE ENVIRONMENT. The Routledge Handbook of Environment and Communication, 26–38. https://doi.org/10.4324/9781315887586-12

Hansen, A. (2018). Environmental Communication. The International Encyclopedia of Strategic Communication, 1–10. https://doi.org/10.1002/9781119010722.iesc0073

Hansen, A. (2019). Environmental communication research: Origins, development and new directions. The Far Right and the Environment: Politics, Discourse and Communication, 38–53. https://doi.org/10.4324/9781351104043-3

Hansen, A., & Cox, R. (2015). INTRODUCTION: Environment and communication. The Routledge Handbook of Environment and Communication, 1–10. https://doi.org/10.4324/9781315887586-9

He, M., Blye, C., & Halpenny, E. (2023). Impacts of environmental communication on pro-environmental intentions and behaviours: a systematic review on nature-based tourism context. Journal of Sustainable Tourism, 31 (8), 1921–1943. https://doi.org/10.1080/09669582.2022.2095392

Hellmann, O. (2024). Visual narratives of environmental change: collective memory and identity at New Zealand heritage sites. Visual Communication, 23 (4), 563–582. https://doi.org/10.1177/14703572221078974

Hoover, A. G. (2017). Sensemaking, stakeholder discord, and long-term risk communication at a US Superfund site. Reviews on Environmental Health, 32 (1-2), 165–169. https://doi.org/10.1515/reveh-2016-0048

Houghton, J. (2005). Place and the implications of 'the local' for sustainability: An investigation of the Ugu District Municipality in South Africa. Geoforum, 36 (4), 418–428. https://doi.org/10.1016/j.geoforum.2004.07.006

Hull, R. B., Robertson, D. P., & Kendra, A. (2001). Public understandings of nature: A case study of local knowledge about "natural" forest conditions. Society and Natural Resources, 14 (4), 325–340. https://doi.org/10.1080/08941920151080273

Langston, J. D., Ros-Tonen, M. A. F., & Reed, J. (2024). Making Landscapes Negotiable: Q-methodology as a Boundary-Spanning and Empowering Diagnostic. Environmental Management, 74 (1), 4–12. https://doi.org/10.1007/s00267-024-02004-1

Martin-Ortega, J., Mesa-Jurado, M. A., Pineda-Vazquez, M., & Novo, P. (2019). Nature commodification: 'a necessary evil'? An analysis of the views of environmental professionals on ecosystem services-based approaches. Ecosystem Services, 37, Article 100926. https://doi.org/10.1016/j.ecoser.2019.100926

Milstein, T., Anguiano, C., Sandoval, J., Chen, Y., & Dickinson, E. (2011). Communicating a "new" environmental vernacular: A sense of relations-in-place. Communication Monographs, 78 (4), 486–510. https://doi.org/10.1080/03637751.2011.618139

Ngai, P. B. (2020). Local Interpretation of the Global Discourse of Sustainability and Sustainable Development in Rural Cambodia. Environmental Communication, 14 (8), 1079–1096. https://doi.org/10.1080/17524032.2020.1768426

Nisbet, M. C., & Newman, T. P. (2015). FRAMING, THE MEDIA, AND ENVIRONMENTAL COMMUNICATION. The Routledge Handbook of Environment and Communication, 325–338. https://doi.org/10.4324/9781315887586-24

Norton, A. (1996). Experiencing nature: The reproduction of environmental discourse through safari tourism in East Africa. Geoforum, 27 (3), 355–373. https://doi.org/10.1016/S0016-7185(96)00021-8

Olausson, U. (2020). Making Sense of the Human-Nature Relationship: A Reception Study of the "Nature Is Speaking" Campaign on YouTube. Nature and Culture, 15 (3), 272–295. https://doi.org/10.3167/nc.2020.150303

Packer, J., Ballantyne, R., Hughes, K., Sneddon, J., & Lee, J. (2022). Differences between Zoo/Aquarium Staff and Visitors' Values, Beliefs, and Pro-Environmental Behaviors: Consequences for Environmental Communication. Visitor Studies, 25 (1), 85–103. https://doi.org/10.1080/10645578.2022.2032927

Patrick, P. G., Rais, R. R., & Vatresia, A. (2026). Environmental education as lived practice in an Indonesian conservation forest: farmers' interpretations of authority, knowledge, learning, and human–nonhuman relations. Environmental Education Research. https://doi.org/10.1080/13504622.2026.2679498

Peeples, J. (2015). DISCOURSE/RHETORICAL ANALYSIS APPROACHES TO ENVIRONMENT, MEDIA, AND COMMUNICATION. The Routledge Handbook of Environment and Communication, 39–48. https://doi.org/10.4324/9781315887586-13

PISCÈ, G. C., & OLIVARI, L. (2025). REFRAMING FESTIVAL COMMUNICATION: TOWARDS A THEORY OF NETWORKED SUSTAINABILITY STORYTELLING. Comunicazioni Sociali, 2025 (3), 326–336. https://doi.org/10.26350/001200_000256

Putri, L. D., Nugroho, C., Malik, A., & Nastain, M. (2023). Developing ecological piety in pesantren: the Kyai's cognition and the practice of living fiqh al-bī'ah in Banten. Ijtihad: Jurnal Wacana Hukum Islam dan Kemanusiaan, 23 (2), 235–259. https://doi.org/10.18326/ijtihad.v23i2.235-259

Robertson, D. P., & Hull, R. B. (2003). Biocultural ecology: Exploring the social construction of the Southern Appalachian Ecosystem. Natural Areas Journal, 23 (2), 180–189.

Rozema, J. G., Bond, A. J., Cashmore, M., & Chilvers, J. (2012). An investigation of environmental and sustainability discourses associated with the substantive purposes of environmental assessment. Environmental Impact Assessment Review, 33 (1), 80–90. https://doi.org/10.1016/j.eiar.2011.11.003

Santulli, F. (2025). Exploring dialogism in discourse: Doxa, interdiscourse, dialogic inversion and environmental issues. Language and Dialogue, 15 (1), 182–201. https://doi.org/10.1075/ld.00192.san

Stenberg, A., & Räisänen, C. (2006). The social construction of 'green building' in the Swedish context. Journal of Environmental Policy and Planning, 8 (1), 67–85. https://doi.org/10.1080/15239080600634458

Taylor, D. E. (2000). The Rise of the Environmental Justice Paradigm: Injustice Framing and the Social Construction of Environmental Discourses. American Behavioral Scientist, 43 (4), 508–580. https://doi.org/10.1177/0002764200043004003

Uren, H. V., Dzidic, P. L., Roberts, L. D., Leviston, Z., & Bishop, B. J. (2019). Green-Tinted Glasses: How Do Pro-Environmental Citizens Conceptualize Environmental Sustainability?. Environmental Communication, 13 (3), 395–411. https://doi.org/10.1080/17524032.2017.1397042

Van Vuuren-Verkerk, K., Aarts, N., & van der Stoep, J. (2021). Meaning-making on the ground: an empirical study on interactional framing in environmental conflicts. Journal of Communication Management, 25 (4), 368–384. https://doi.org/10.1108/JCOM-11-2020-0149

Veldman, R. G. (2016). What is the Meaning of Greening? Cultural Analysis of a Southern Baptist Environmental Text. Journal of Contemporary Religion, 31 (2), 199–222. https://doi.org/10.1080/13537903.2016.1152676

Verhoest, P., Bauwens, J., te Braak, P., & Huysmans, M. (2025). The social resonance of environmental media messages: a connectionist-inspired reception analysis. Humanities

and Social Sciences Communications, 12 (1), Article 882. https://doi.org/10.1057/s41599-025-05243-7

Warren, N. (2026). Paddling with the Mississippi River: place-based–but not place-bound–knowledge production. Frontiers in Communication, 10, Article 1640481. https://doi.org/10.3389/fcomm.2025.1640481

Xu, J., & Chung, C. K. L. (2014). 'Environment' as an evolving concept in China's urban planning system. International Development Planning Review, 36 (4), 391–412. https://doi.org/10.3828/idpr.2014.21

Yasir, Y. (2020). Environmental Communication Model of Farmer Community in Peatlands Ecotourism Development. Journal of Physics: Conference Series, 1655 (1), Article 012133. https://doi.org/10.1088/1742-6596/1655/1/012133