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Participatory Communication, Structural Barriers, and the Awareness–Action Gap in Community-Based Climate Engagement in Pakistan

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ABSTRACT

Scholars of climate adaptation have noted that citizens may signal a willingness to act on climate change, but actual participation in activities remains low. This article is based on a survey of 499 households conducted on four different strata of District Jhang in Punjab, Pakistan. The survey captures anticipated and actual participation in climate activities, the inclusion of climate activities in existing information, the barriers participants face in accessing climate information, and the preferred local climate activities. Results show that participants overestimate their willingness to act as evidenced by a moderate level of interest to participate in future climate campaigns (mean = 3.82, standard deviation = 1.12) and a moderate level of interest in future climate activities (mean = 4.13, standard deviation = 1.43). However, 31.6% reported no inclusion in local climate activities and 29.5% reported no awareness of community climate activities. 41.5% reported no participation in climate activities or meetings. The primary barrier to the receipt of climate information was an attitude of climate disinterest (33.2% of the responses were “climate issues are not seen as important”). Relatively large structural barriers, including a lack of reading material and distrust of information sources, remained. Participants preferred local, climate change activities that used local language and real-life examples.

Keywords: *Climate Adaptation, Participatory Communication, Awareness–action Gap, Environmental Justice, Community-based Climate Action, Pakistan.*

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1. Introduction

Climate adaptation literature shows that Global South communities are highly aware of climate risk. However, participation in community-based activities targeting adaptation and mitigation is

lacking (Moser, 2016). The growing literature that reports on community awareness and community action gaps (Moser, 2016) is contributing to a better understanding of the lack of community-based participation. The solutions to closing the gaps reported in the literature potentially offer answers to



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the challenge of creating effective community-based participatory climate communication. Pakistan is a unique case. The country suffers from severe and worsening climate impacts (Faheem et al., 2025; Nanditha et al., 2023) and incidences of glacial lake outbursts. It has district-level community climate policy frameworks such as the National Climate Change Policy (2012) and the National Adaptation Plan (2023). Several studies continue to find community and local governments in Pakistan lack the resources and infrastructure to implement climate policies and adapt to climate change (Government of Pakistan, 2023a; Mbah et al., 2022).

This article examines that gap empirically using survey data on participation, perceived inclusiveness of climate messaging, structural and attitudinal barriers, and community-preferred pathways to increased local climate action, drawn from the same 499-respondent household survey conducted across four settlement strata of District Jhang, Punjab. The analysis is organised around three of the five research questions that guided the parent study — whether facilitating participatory communication through local communities can enhance sustained public participation in climate action (Research Question 3), and what barriers, including but not limited to literacy and socio-economic factors, hinder climate communication from reaching rural and marginalised citizens (Research Question 2) — and evaluates three corresponding hypotheses: that participatory communication is associated with higher levels of sustained public participation (H3, H6), and that climate communication does not reach rural and marginalised citizens because of limited literacy, digital divide, and socio-economic barriers (H2). Unlike a companion analysis of the same dataset focused on media exposure and trust in climate information (reported elsewhere), this article's contribution is to show that the constraint on climate action in this population is not primarily a knowledge deficit but a participation deficit — and to identify, using respondents' own stated preferences, the specific pathways most likely to close it.

2. Literature Review

2.1 Participatory Action Research and the Ladder of Participation

Participatory Action Research (PAR) treats

participation as a collaborative, reflexive, and action-oriented process in which affected communities are co-researchers and co-producers of knowledge rather than passive recipients of externally designed interventions (Lewin, 1946; Fals-Borda, 1987). A foundational conceptual tool in this tradition is Arnstein's (1969) ladder of citizen participation, which distinguishes non-participation (manipulation, therapy), tokenism (informing, consultation, placation), and genuine citizen power (partnership, delegated power, citizen control); this framework has since been widely applied to climate adaptation research to assess the quality, rather than merely the presence, of participatory processes (Reed, 2008). PAR scholarship consistently finds that "invited" participation — in which institutions define the terms of engagement and invite communities into a pre-set structure — can raise awareness and a sense of inclusion without conferring the agenda-setting power associated with transformative or empowered participation (Cornwall, 2008; Cooke & Kothari, 2001). When participatory platforms and institutional facilitation are weak or missing, feedback loops are minimal and communities are often viewed as objects of communication, instead of co-producers of solutions. This is what PAR scholars believe is why there is a mismatch between strong stated willingness to participate and sustained collective action (Kindon et al., 2007; Bradbury, 2015).

2.2 Community-based Adaptation and Local Participatory Models

Community Based Adaptation (CBA) scholarship takes this participatory approach a step further. Designed in partnership with the local community, climate adaptation, because responses to climate risk are best and most sustainable if they are designed in partnership with the local community. They are local, inclusive, and based on community agency and not just local, as in mindless localism, or inclusive, as in shameless populism. Technical fixes that are applied to the outside of the system (Ayers & Forsyth, 2009; Ensor & Berger, 2009). Across South Asia, empirical work has documented that participatory tools such as community meetings, role-play and visual simulation exercises, and locally facilitated disaster communication improve preparedness, trust, and adoption of adaptive practice relative to top-down extension models, particularly where facilitated in local

languages by trusted local actors (Ashraf & Routray, 2013; Manyozo, 2012). In Pakistan specifically, community-based flood management, participatory irrigation governance, and farmer field schools have been identified as effective mechanisms for building risk awareness and adaptive behaviour, though researchers note that such initiatives often remain fragmented, short-term, and project-based rather than embedded in durable local institutions (Jatoi et al., 2022). This literature motivates close attention, in the present study, to whether respondents' participation is genuinely sustained or largely episodic, and to which specific structural barriers most limit its consolidation.

2.3 Actor-network Theory and the Socio-technical Mediation of Participation

Finally, Actor-Network Theory (ANT) challenges the view of participation as a voluntary act and a matter of attitude, and suggests that it can also be a networked outcome, co-produced by human and non-human actors (citizens, actors, officials, journalists, algorithms, platforms, policy documents, communication infrastructure – Callon & Law, 1986; Latour, 2005 – in parent literature). In climate communication, ANT proposes that a given message or platform can be facilitating participation in one context, but not in another, depending on the climate literacy and trust in the surroundings where it is being shared, as well as access to devices and platform design (Gillespie, 2018). This lens can help explain the high levels of reported willingness found in this study and low levels reported participation, if this is not a change of heart, but rather a lack of a robust network of institutional facilitation between the motivation and opportunity.

2.4 Environmental Justice and the Distribution of Voice

Environmental Justice (EJ) scholarship focuses on questions of climate vulnerability and response as not only informational or technical issues, but also questions of power and distribution, including questions of distributional justice (who suffers environmental harm), procedural justice (who decides on environmental harms), and recognitional justice (who knows and who is recognized) (Roberts & Parks, 2007; Schlosberg, 2007). One of the key arguments in EJ theory directly relevant to this study is that the most vulnerable groups to

climate risk are often the least able to design adaptation strategies, and that communication strategies that emphasize raising awareness can reinforce this by increasing informational access without increasing procedural access (Schlosberg, 2007). Similarly, in the Pakistani context, studies on water governance and institutional landscape also reveal that local level decision making and unequal institutional capacities hinder the implementation of national level participatory commitments in policy (Qureshi, 2018; Mbah et al., 2022; Government of Pakistan, 2023a).

2.5 Barriers to Reach: Literacy, Structure, and Attitude

A closely related strand of literature focuses on how climate information and participatory opportunity are not making its way to rural, low-literacy, and otherwise-marginalized communities. It is widely recognized that communication that relies heavily on text and/or is technically worded excludes lower-literacy audiences, whereas formats involving images, voice and/or local facilitation can diminish — but not entirely eradicate — this barrier (Manyozo, 2012; Ensor & Berger, 2009). Distrust of information sources, rooted in histories of unmet institutional promises, is separately identified as a barrier that dampens both information uptake and willingness to participate (Ensor & Berger, 2009). Less consistently emphasized in the literature, but directly tested in this article, is the relative weight of attitudinal barriers — climate risk simply not being perceived as sufficiently important or urgent — compared with these structural barriers of literacy, trust, and access.

3. Research Methodology

3.1 Research Design, Population, and Sampling

This article draws on the same positivist, quantitative, cross-sectional household survey described in the companion analysis of this dataset: a structured questionnaire administered across four settlement strata of District Jhang, Punjab (traditional/old urban neighbourhoods, walled/gated urban societies, rural villages, and small towns, with an additional category capturing dera/informal-settlement residents), using stratified sampling combined with multi-stage cluster sampling proportional to each stratum's population. Of 500 questionnaires administered, 499 valid responses were retained (N = 499). The sample skewed toward young adults (69.5% aged 18–25),

was 58.5% female, was drawn predominantly from urban and gated-urban strata (62.3% combined) with the remainder from rural villages (23.2%), small towns (10.7%), and informal settlements (3.8%), and was concentrated in lower-to-middle income brackets (59.1% at or below PKR 50,000 monthly household income). As in the companion analysis, findings should be read as most representative of this young, urban-leaning, lower-middle-income population rather than as nationally representative.

3.2 Instrument and Measures

Table 1: Measures Analysed in This Article

Item	Construct	Response Format	Options	<i>n</i> (valid)
Q1	Response after receiving climate messages	Multiple-response	5	552
Q2	Perceived inclusiveness of climate messages	Single-choice (ordinal)	5	490
Q3	Involvement in local climate decisions	5-point Likert-type (frequency)	5	491
Q4	Prior participation in community climate activity	Single-choice (ordinal)	5	488
Q5	Role played in past activities/meetings	Single-choice (ordinal)	5	506
Q6	Likelihood of future campaign participation	5-point Likert	5	492
Q7	Barriers to receiving climate information	Multiple-response	6	678
Q8	Best way to increase local climate action	Single-choice (ordinal)	5	489

Note. *n* (valid) for multiple-response items reflects the total count of option selections across respondents rather than the number of respondents, since respondents could select more than one option (up to 678 selections for Q7).

3.3 Data Collection and Analytic Approach

Data were collected through in-person administration of the structured questionnaire across the four sampling strata, with voluntary participation and confidentiality assured. Consistent with the descriptive, cross-sectional nature of the design, the results below report frequencies, percentages, and — for the two Likert-scaled items — means and standard deviations; hypotheses are evaluated in terms of whether observed descriptive patterns are directionally consistent with each hypothesis rather than through formal inferential or significance testing, a limitation discussed further below.

4. Results

4.1 Demographic and Participatory Context

Rural, small-town, and dera (informal-settlement)

This article analyses the subset of survey items concerned with communication effectiveness, inclusiveness, participation, and barriers to engagement, summarised in Table 1. As with the parent instrument, response formats were matched to construct type: single-choice ordinal formats for graded items, multiple-response formats for constructs where respondents plausibly hold more than one simultaneous view (e.g., behavioural response to messages, barriers), and explicit 5-point Likert scales for the two items permitting a mean score (inclusion in local decisions and likelihood of future participation).

residents together comprised 37.7% of the sample, providing a substantial — though not majority — base from which to examine participation patterns among comparatively under-served settlement types alongside the urban majority.

4.2 Message Response and Perceived Inclusiveness

Asked how they typically respond after receiving climate change messages, the most common reported response was taking small personal actions such as saving water or planting trees ($n = 207$), followed by discussing climate issues with family or neighbours ($n = 144$) and becoming more concerned without yet acting ($n = 142$); only a small minority ($n = 38$) reported ignoring climate messages outright. Regarding inclusiveness, a majority of respondents ($n = 152$) said most of the climate messages they receive are from experts or

officials, while nearly as many ($n = 107$) said most of the messages they receive are missing people like women, farmers or the poor, and 93 respondents said most of the messages they receive include local community stories and voices.

4.3 Participation: Stated Willingness Versus Actual Engagement

The gap between stated willingness and actual engagement is the central empirical finding of this article. On the explicit 5-point Likert item measuring likelihood of future campaign participation, respondents reported a moderately high average score ($M = 3.82$, $SD = 1.12$), indicating generally positive stated willingness to participate in future climate-related activity. Actual prior engagement told a markedly different story. Roughly one-third of respondents (31.6%) reported never having been included in local climate decision-making, and a similar share (29.5%) reported never having even heard of community climate activities in their area. On role played in past climate-related activities or meetings, the single largest group ($n = 207$, 41.5% of valid responses) reported no involvement at all — more than the combined total of those who shared opinions ($n = 126$), attended and listened ($n = 81$), or helped organise events ($n = 67$).

4.4 Barriers to Receiving Climate Information

Asked what barriers they face in receiving climate

information (a multiple-response item, $n = 678$ selections), respondents most frequently cited an attitudinal barrier — that climate issues are “not seen as important” ($n = 225$, 33.2% of selections) — ahead of more structural barriers: inability to read printed materials ($n = 130$), distrust of sources or messengers ($n = 110$), and lack of access to television, radio, or internet ($n = 104$). This suggests that, in this sample, motivational and attitudinal obstacles were reported at least as frequently as access-based literacy and digital-divide obstacles, although access-based literacy and digital-divide obstacles were far from insignificant.

4.5 Preferred Pathways to Increased Local Climate Action

Respondents had a fairly even distribution of ideas when asked what would be most helpful to move forward on local climate action, with no clear dominant response among the five strategies. The two most-favoured options were use of local language and real-life stories ($n = 114$) and social media/mobile-based campaigns ($n = 107$), followed closely by working with trusted local institutions such as mosques, schools, and community elders ($n = 98$) and involving local people directly in message design ($n = 87$). This pattern indicates broad support for localised, participatory, low-tech-friendly communication strategies rather than a single preferred channel.

Table 2: Summary of Hypothesis-Relevant Findings

Hypothesis	Key Evidence	Assessment
H2: Communication does not reach rural/marginalised citizens due to lack of media access (n = 104) and inability to read printed materials (n = 130) cited as barriers, though economic barriers	Rural/small-town/dera residents = 37.7% of sample; attitudinal barriers (n = 225) cited even more often	Partially supported
H3/H6: Facilitating participatory communication through local communities can increase sustained public participation	Local-language/real-life stories (n = 114) and involving local people in message design (n = 87) strongly preferred; current participation (Q3/Q4) is low, indicating substantial room for improvement under participatory approaches	Partially supported

Note. “Partially supported” indicates that the descriptive pattern is directionally consistent with the hypothesis but was not tested using inferential statistics, a limitation discussed in Section 6.

5. Discussion

5.1 A participation Deficit, Not Primarily a Knowledge Deficit

The most consequential pattern in these results is

the divergence between stated willingness ($M = 3.82$ on future participation likelihood) and actual prior engagement (41.5% reporting no involvement in past climate activities, 31.6% reporting exclusion from local decision-making). This is not an

indicator that communities do not care about climate risk; it is because of a longstanding difference between the concepts of invited participation (whereby institutions define what happens and communities are informed or consulted, but not involved in the process) and empowered or transformative participation (whereby communities actively shape the agenda for climate knowledge and action as co-producers) (Cornwall, 2008; Kindon et al., 2007). The proportion of respondents who indicated some involvement in helping organize events ($n = 67$) compared to those who indicated no involvement ($n = 207$) suggests that if participatory opportunities were available in this population then they are not deep enough to be transformative (Arnstein, 1969).

5.2 Why Willingness Does Not Convert into Participation: an ANT-informed Reading

Actor-Network Theory can help explain why people's expressed willingness is insufficient to guarantee their continued engagement — participation relies on a network of conditions that make it possible, such as open platforms, institutional facilitation, and a working feedback loop, and when any component of this network is missing or dysfunctional, the motivation-action connection is severed, despite how willing people may be (Callon & Law, 1986; Gillespie, 2018). The perceived-inclusiveness findings reinforce this reading: with a plurality of respondents feeling that climate messaging mostly showcases experts or officials rather than local voices, communication in this setting appears to be functioning largely as one-directional dissemination rather than as a genuinely networked, dialogic process capable of sustaining participation over time.

5.3 Attitude First, Structure Close Behind

A further notable finding is that the single most-cited barrier to receiving climate information was attitudinal — climate issues simply not being seen as important — rather than a purely structural or access-based obstacle, even though structural barriers (illiteracy, distrust, lack of media access) remained substantial in combination. This has a direct bearing on H2 and H4: the evidence is only partially consistent with a strict “access-denial” account of why rural and marginalised citizens is under-reached, since attitudinal disengagement was cited even more frequently than lack of access. From an Environmental Justice perspective, this

finding should not be read as absolving structural inequality: procedural exclusion — the fact that respondents who do perceive climate issues as important are nonetheless largely excluded from local decision-making (Section 4.3) — may itself dampen the perceived importance of engaging with climate messaging in the first place, since messaging that offers no route to influence outcomes provides comparatively little incentive for sustained attention (Schlosberg, 2007). In other words, the attitudinal and structural explanations are plausibly linked rather than competing: weak procedural access may be one source of the very “not important” attitude respondents report.

5.4 What Respondents Say Would Help: An Evidence Base for Design

The preferred-pathways findings (Section 4.5) provide a directly actionable evidence base rather than a purely diagnostic one. The near-even distribution of support across local-language storytelling, social-media/mobile campaigns, trusted local institutions, and direct community involvement in message design indicates that no single channel or intervention is likely to close the participation gap on its own; instead, the evidence favours a multi-channel strategy that combines the reach of digital platforms with the legitimacy of trusted local messengers and genuine community co-design of messages, consistent with Community-Based Adaptation and Development Support Communication scholarship emphasizing locally grounded, dialogic communication over centrally produced campaigns (Ayers & Forsyth, 2009; Manyozo, 2012).

5.5 Consistency with, and Divergence from, Prior Research

The persistence of an awareness–action gap despite generally positive attitudes is consistent with a wider body of Global South evidence showing that structural and institutional barriers, rather than public indifference, are the primary constraint on translating climate awareness into adaptive behaviour (Moser, 2016). At the same time, the comparatively high stated willingness to participate found in this sample, combined with only moderate actual engagement, suggests that the constraint in this Pakistani context is less a matter of motivation than of institutional facilitation — a reading consistent with research on Pakistan's institutional landscape, which finds that local governments

frequently lack the financial independence, technical capacity, and communication resources to convert national participatory policy commitments (e.g., the National Adaptation Plan's emphasis on community engagement) into functioning local practice (Government of Pakistan, 2023a; Mbah et al., 2022).

6. Conclusion

This study found that the awareness–action gap is clearly present in the communities of District Jhang, Punjab: the awareness level was moderate, but significantly lower than two-thirds of the respondents reported that they had never been included in local community climate decision making or knew of no community climate activities. The dominant barrier cited was not structural (such as poor literacy) or susceptibility to doubt (such as mistrust), but rather attitudinal; plausibly, this is linked to the structural barriers, as weak procedural inclusion in itself could lead to the perception that climate engagement is not worth the effort. While no particular channel emerged as the clear front-runner, respondents indicated that a viable path forward is supported by a variety of localised,

participatory communication strategies, including using local language storytelling, engaging with local institutions trusted by the community, and actively participating in the creation of messages. When taken together, these findings indicate that a key climate communication challenge in Pakistan today is becoming more institutional: getting the public to act will require less of generating new awareness and more of creating participative platforms, facilitating institutions and providing feedback mechanisms to turn public will into sustained collective action. As a cross-sectional, self-reported survey of one Pakistani district, this study cannot test causal claims about why participation remains low, nor can its findings be generalised beyond the young, urban-leaning population sampled; future research combining qualitative or participatory action research methods with longitudinal designs, and extending comparative attention to Pakistan's other provinces and to marginalised groups such as women and linguistic minorities, would help establish whether the participatory interventions respondents themselves favour are, in practice, capable of closing the gap identified here.

Conflict of Interest

The authors showed no conflict of interest.

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