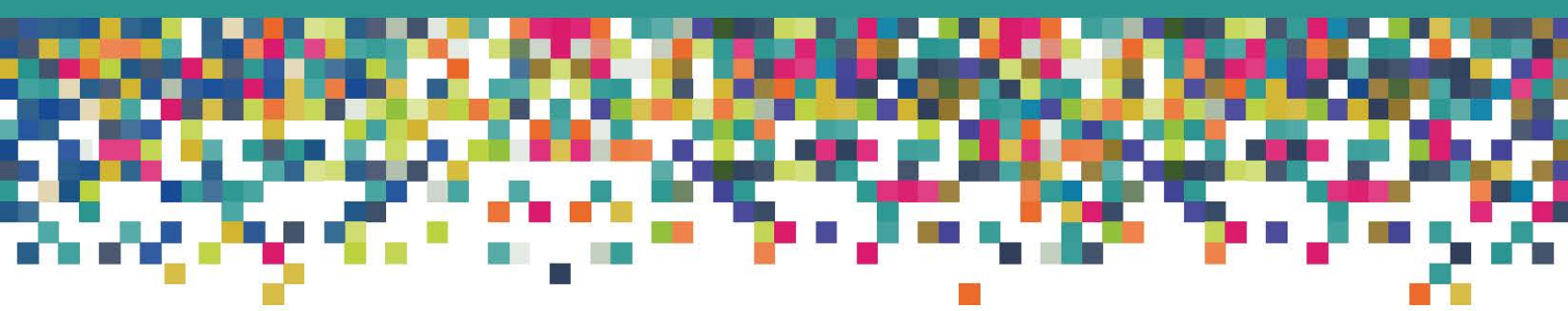




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Raising Public Consciousness and Enabling Action

A Framework for Communicating Climate Change

Tyrone Christopher Hall



RAISING PUBLIC CONSCIOUSNESS AND ENABLING ACTION

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ABSTRACT

Contemporary ecological issues compound environmental communications' primary challenge of raising public consciousness and effectively mobilizing agency to mount robust systemic and practical actions. "We know little about our capacity to raise public consciousness and therefore incite reparatory actions" in the environmental domain (Foxwell-Norton & Lester, 2017). Amidst a rapidly narrowing window of opportunity to mount systemic actions, the paper accords greater philosophical and practical attention to social justice aspects of climate adaptation and articulates a framework for communicating climate change in vulnerable resource dependent communities. The framework draws upon Hall's (2019) comparative cross-cultural study of seven climate adaptation initiatives across 17 indigenous and traditional villages in Fiji, India and Belize that typifies disproportionate vulnerability. The paper probes the nature of communication required for merely coping with, adapting to and pursuing transformation amidst unprecedented anthropogenic climate change. These three communicative pathways are functional corollaries to Pelling's (2011) seminal tripartite adaptation framework.

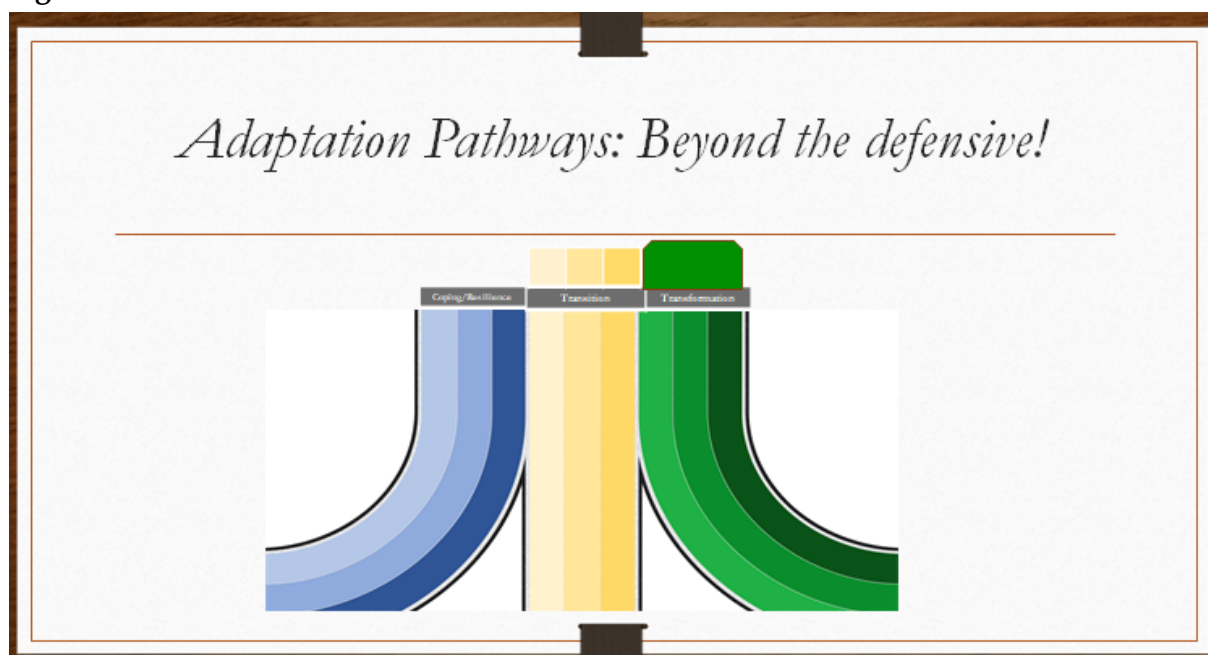
INTRODUCTION

Contemporary ecological issues compound environmental communications' primary challenge of raising public consciousness and effectively mobilizing agency to mount robust systemic and practical actions. This fundamental challenge persists amidst capitalist enclosure that exacerbates anthropogenic climate change in a manner that indicts current models of macrosocietal planning (Steffen, 2011; Garnaut, 2008). Yet, "we know little about our capacity to raise public consciousness and therefore incite reparatory actions" in the environmental domain (Foxwell-Norton & Lester, 2017). This communicative conundrum is rooted in the atomistic approach to climate change at both policy and programmatic levels (Adger, Paavola, & Huq, 2006; Agyeman, Doppelt, Lyn, & Hatic, 2007; Cohen, Demeritt, Robinson, & Rothman, 1998). Amidst a rapidly narrowing window of opportunity to mount urgent and systemic actions, populations most exposed to and least capable equipped to contend with current and projected climate impacts are most at risk. Guided by this ethico-political awareness, this paper accords greater philosophical and practical attention to the social justice aspects of climate adaptation and articulates a framework for communicating climate change in highly vulnerable resource dependent communities on the global margins.

Adaptation is the response mechanism through which "win-win" outcomes are most likely and the modality through which the most vulnerable must act and frame their responses (Adger et al., 2006; Cohen et al., 1998; Galloway McLean, 2010; Howell, Capstick & Whitmarsh, 2016; Moser, 2017; Pelling, 2011; Swart, Robinson, & Cohen, 2003). Further, there is substantial attention to equity issues in mitigation of climate change. Mitigation "is a core principle of the United Nations Framework Convention on Climate Change" (Adger et al., 2006, p. 2), although limited to narrow concerns about citizenship and, political actions around emissions rather than "multiscale and multifaceted" conceptions warranted by climate change (Adger et al., 2006, p. 1). The lack of ethico-political attention to what is emerging as the most impactful and holistic locus of action, adaptation, therefore underscores why a reflexively participatory disposition underpins the framework articulated.

This paper outlines a framework for communicating climate change for adaptation. The paper positions adaptation as a dynamic process with three broad pathways across a linked continuum. (coping, transition and transformation). The pathway offered are each layered, as shown by the colour gradients in figure 1. Communication for adaptation at any point within this pathway can create tipping-points and movement across the continuum. I draw upon an expansive international study to suggest the communication elements, and associated engagement formats that can support each adaptation pathway.

Figure 1



The framework is premised on data and findings from Hall's (2019) examination of seven distinct adaptation initiatives on the margins to see how they communicate impacts and adaptation to ascertain core elements. The comparative and cross-cultural study of climate adaptation engagement processes across 17 indigenous and traditional villages in Fiji, India and Belize includes a sample population of 300 that typifies heightened and disproportionate levels of vulnerability. The comprehensive study employs a socio-cultural elicitation and analytical framework to delineate and probe climate change perception, disposition and actions across 14 dimensions with keen attention to contextually variable group membership, alongside standard demographic variables. Probing these interpretive communities uniquely illuminates how discrete group membership structures climate disposition. It also highlights contextual intervention levels for knowledge improvement and mobilization generally and across specific dimensions, including religious and nature-oriented fatalism, discrete motives and potential sources of leadership.

To operationalize the scope of insights generated by this intersectional empirical scrutiny of climate change communication, this paper highlights critical elements associated with distinct communicative approaches necessary for the pursuit of three climate action pathways that encompass a wide range of futures that can be endogenously envisioned. The paper probes the nature of communication required for merely coping with, adapting to and pursuing transformation amidst unprecedented anthropogenic climate change. These three communicative pathways, which are intended as functional corollaries to Pelling's (2011) tripartite adaptation framework, are systematically delineated based on the intersectional case

studies. Pelling is among the first scholars to comprehensively map adaptation as a process with the ethico-political consciousness of primary interest to this scholar and others concerned with climate justice in practical terms. Accordingly, the paper articulates the climate action pathways and futures possible under the seven distinct adaptation projects studied based on their conceptualization. Owing to the variable nature of project implementation and engagement across contexts, each of the 17 villages is mapped across these climate action pathways with keen attention to the communicative modalities employed. While the project sample is small and only representative of the contexts studied, the high degree of cross-cultural and cross-national commonalities Hall observes, strongly underscores the transferability of these actionable insights.

THEORETICAL FOUNDINGS: PELLING'S TRIPARTITE FRAMEWORK

Pelling's (2011) conceptualization of adaptation goes beyond structuring the future amidst the Anthropocene in mere transitional terms (Gardiner, 2011) and offers a structure for making sense of the pathways available to humanity that is useful for outlining a terrain of action and the material outcomes associated with the pathways pursued. Pelling (2011), the first to offer a comprehensive analysis of the social dimensions to climate change adaptation, conceives of adaptation as a dynamic process that presents an "opportunity for social reform, for the questioning of values that drive inequalities in development and our unsustainable relationship with the environment" (p. 9). This reading foregrounds power asymmetries as consequential for climate change impacts and responses and is guided by Rawl's normative framework (cited in Pelling, 2011) for the realization of justice that "prioritizes human rights over public good, holds the social contract between citizens and the state in dynamic tension" (p. 12) and calls for governance "principles that ensure inclusive governance and seek to enhance the quality of life of the poorest" (p.12). This normative frame is compatible with Gardiner's (2011) call for an "ethics of transition" (p. 319).

In concert with this view, Pelling (2011) offers a tripartite "resilience—transition—transformation" framework (p. 81) for delineating and probing the full range of adaptive choices that must be made at various levels across societies. These three layers are pathways or terrains of actions that clarify how varieties of the politics of hope can be enacted in a participatory fashion. The first, resilience, is consistent with the isolation and mild-rectification frame highlighted by Gardiner (2011). It "refers to refinement of actions to improve performance without changing guiding assumptions or the questioning of established routines" (Pelling, 2011, p. 37), but compounded actions could result in tipping-points that lead to transition.

The second and third elements, transition and transformation, are significantly different (though not unrelated) as they allow for varying engagement with the socio-political elements embedded in this complex reality that one seeks to address. Transition, according to Pelling (2011), is tantamount to incremental social change; modest modifications are made and existing rights are exercised, which positions it within the mild-rectification and neutrality frames noted by Gardiner (2011). However, compounded incremental actions can lead to a tipping point towards more radical outcomes and it is these tipping points that are of primary interest. On the other hand, transformation includes the explicit assertion of/demand for “new rights and changes in political regimes” (Pelling, 2011, p. 3), particularly the enactment of bivalent justice mechanisms. Transformation therefore points towards “radical change” (Pelling, 2011, p. 10) and is the pathway of most theoretical and practical interest to me given my profound interest in responses commensurate with the challenge in the context of compounded vulnerabilities (historical and current). The power dynamics and inevitable contestations of this conceptualization of adaptation lay bare means, pathways or terrains of action that are not necessarily inequitable or equitable and context (physical and cultural) will be determinative.

The connections between all three levels or pathways for action, to the extent that incremental action at one end can result in action oriented towards other elements, even in a countervailing manner, warrant an understanding of climate change communication’s role commensurate with an interest in the politics of hope in both the material and philosophical sense outlined. This is important because communication is essential for changing social systems (Gumucio-Dagron & Tufte, 2006; Rogers, 1962, 1973; Schramm, 1964). This frame, which makes clear that the future and invariably the climate change communication needed, is multiple, underpins Hall’s contention that the communicative triggers for adaptation, which are fundamentally embedded across spheres of life with high perceptibility, are decisively different from those of mitigation and require greater focus on action to awareness than awareness to action. This means decision-making and institutional functioning impact the scale and nature of effective adaptation action and the attendant communication process(es) required.

In other words, one can speak of communication for climate resilience, transition and transformation, which are unspecified in contemporary climate change communications research. This means the communicative and engagement frames needed to support climate adaptation for coping, for transitioning or resilience, or, more ambitiously, transformation are underexplored. The implication is that communities and the broader climate agenda are insufficient served. Optimizing climate change communication requires understanding the modalities commensurate with the differential challenges associated with each, delineating how reflexive and action-oriented communication can enable progressive and ethical tipping points towards the vanguard model (Gardiner, 2011), transformation (Pelling, 2011) or radical

material realization of the politics of hope (Lear, 2006; McIntosh, 2008; Orr, 2011) and how communities and other adaptation actors enact these communicative acts. The multiple ways in which adaptation occurs—autonomous, spontaneous or passive and planned, per Carter (cited in Pelling, 2011); reactive, concurrent and anticipatory (Burton, Kates, & White, 1993), maladaptation (Moser & Dilling, 2007), their scale (Smith et al., 2000; Splash, 2007; Stern (2006) and time-horizon (Pelling, 2011) will also certainly impact the nature of the communication. Distilling the modalities commensurate with the differential challenges associated with each pathway and delineating the ways how communication can enable progressive tipping points towards transformation is consistent with Waisbord's (2014) reassessments of strategic diffusionist actions that eschew participatory binaries in favour of embedding strategic issues and actions, participation and co-equal communicative actions to achieve social change and empowerment.

ADAPTATION PATHWAYS AND COMMUNICATIVE REQUIREMENTS

Consistent with the critical reading of adaptation outlined, the nature of adaptation is too germane to the quality of human development outcomes and cultural survival to be approached as a narrow “defensive task – protecting core assets or functions from the risks of climate change” (Pelling, 2011, p. 3). While the resource dependent communities studied have lived with environmental change for centuries, “the heightened and differential levels at which contemporary geologic change incapacitates traditional knowledge systems and elements of their vital collective social and cultural order” means the efficacy and sufficiency of adaptation responses to intensified and permanent climate change will enable various outcomes and differentiating fortunes that are structured by contextual vulnerabilities, scope and capacity to act. The variable efficacy, systemic impact and differing paradigmatic frameworks governing the seven distinct climate adaptation interventions studied by Hall, even among villages exposed to the same intervention, underscores this observation. This finding is consonant with Pelling's (2011) contention that adaptation is dynamic and is best understood and pursued “as a process rather than a status” (p. 14). The optimal goal or outcome of this dynamic process (transformation) is realized where social reforms and transformations with reparatory and holistic efficacy building goals are pursued socio-culturally, environmentally and politically. Thus, the finding that primarily circumscribed, issue-specific, economistic and information deficient adaptation mechanisms are ineffective, strongly supports Pelling's (2011) hypothesis that adaptation actions can be limiting. Specifically, adaptation actions without an ethico-political consciousness, lacking comprehensive multi-scaled response frameworks, resources and nuanced wide-ranging

engagement mechanisms are least likely to result in robust coping capacity, enable transition and foster transformational change. At best, such marginal adaptive responses enable communities to cope or achieve a degree of resilience.

The empirical evidence is highly consistent with Pelling’s theory of adaptive pathways or options. As described, Pelling’s (2011) progressive tripartite framework for assessing and pursuing adaptation across multiple levels, ranges from resilience (stability), transition (incremental social change and the exercising of existing rights), to transformation (new rights claim and changes in political regimes). Table 1 highlights both the intents and outcomes of the interventions studied across the tripartite adaptation pathways. The table shows the seven projects based on their conceptual frames and programmatic formulation and more granularly, the 17 villages based on the implementation and outcomes, against the three adaptive pathways/possibilities. To account for distinctions in levels of enablement across pathways conceptually and practically, Pelling’s frame has been segmented into three levels indicative of the sturdiness or levels of enablement (low - level one, moderate - level two and advanced - level three).

Table 1: Adaptation Pathways and Levels of Enablement Conceived and Realized

Adaptation Pathways		Coping/Resilience			Transition			Transformation		
Level of Enablement		1	2	3	1	2	3	1	2	3
Project Conceptualization		EU-GCCA	C-CAP			VTI Ya'axche Project	Cohune Palm Nut Project	PRAGATI- CARE- STEP	Forest Forever! Forests Ecosystem	
Project Implementation & Outcome Across Villages	EU-GCCA	Seaqaqa Settlements								
	C-CAP		Yaqaqa Island							
	VTI					Malawai Village Lamiti Village				
	PRAGATI- CARE-STEP	Agraharam Sunaladana	Itikalakota Palem							
	Forest Forever! Forests Ecosystem	Munagalapudi Pulusumamidi Nallikota								
	Ya'axche Project	San Miguel Indian Creek	Trio							
	Cohune Palm Nut Project	Flowers Bank								

Conceptually, the projects associated with the study sites are robust. Five of the seven interventions are sufficiently crafted to enable at least moderate levels of transition. Specifically, both VTI (Gau Island) and Ya'axché (Belize) can theoretically enable moderate transition (level two). This assessment is premised on both project's comprehensive and explicit focus on climate change, employment of practical and self-enhancing information provision mechanisms, including demonstrative techniques, in accordance with heightened sensitivity to socio-cultural dispositions and authority structures. However, both have been conceived with clear limits to resources, primarily monetary and technical, which are critical for realizing advanced levels of transition. While both initiatives have an ethico-political consciousness that primes them towards the differentiated and disproportionate impacts of climate change, they neither privilege nor articulate rights claim in accordance with the explicit reparatory consciousness and reforms necessary for transformation.

On the other hand, the Cohune Palm Nut Project (Belize) is conceived relatively more expansively. The Cohune Palm Nut Project privileges sourcing heightened financing in a tangible and sustainable manner to tackle both the root cause (fossil fuel consumption) and likely solution to the issue of climate change (renewable energy), alongside sustainable income generating activities. However, it conceives these reforms and transitional livelihood mechanisms within existing state and regional policy terms. So, while it enables advanced transition (level three) conceptually, it falls short of transformation, given its direct conformance with an unreformed and dominant logic that precludes a reparatory consciousness and critical distribution of benefits.

Conversely, both Indian projects are conceptually disposed towards enabling transformations because of their frontal and primary emphasis on a transformative, rights-based approach towards livelihoods with varying but substantial environmental and agro-forestry focus. Sub-maximal emphasis and distinctions in the degree of explicit focus on climate change and the environment, as well as the range of intended responses, however, accounts for the distinction in the level of transformation possible across initiatives (PRAGATI-CARE-STEP and Forest Forever! Forests Ecosystems, levels one and two, respective). Laya's Forestry initiative, for instance, explicitly tackles the energy factor (both a cause and solution to climate change) at the individual level (rather than systemic), which is absent from PRAGATI's.

The two remaining initiatives, the EU-GCCA Project and C-CAP, which were implemented in Fiji, offer the most limited or circumscribed pathways: coping levels one and two, respectively. Both aim to address narrowly defined challenges in accordance with critical and externally pre-defined resource limitations (primarily monetary), which are elemental for the realization of all adaptive plans. The EU-GCCA project tackles a discrete challenge (water scarcity) through the provision of temporary resilience building actions (centralized tanks and connecting infrastructure to moderately improved natural catchments), whereas, the C-CAP

initiative prioritized one aspect (providing an evacuation centre) of an expansive issue of adaptive import (disaster risk reduction) with clearly articulated possibilities and tangential benefits. The marginal possibilities afforded by the only two donor-funded or explicitly macro-development approaches to climate change adaptation is consistent with established concerns within critical perspectives on development about the limits of external funding agendas and circumscribed piecemeal approaches that privileges the documentation of efficacious implementation of narrowly defined and marginally funded projects.

Mapping the projects onto Pelling's tripartite framework also affords the delineation of specific communicative and broader engagement strategies, tactics, techniques and the socio-political disposition associated with the pursuit of each pathway within the adaptation framework. Three categories of adaptation variables (communicative, engagement and socio-political) across projects have been distilled based on the implementation of the projects. The communicative elements, engagement modalities and socio-political elements at the core of the enacted initiatives underpins the positioning of the villages at differentiated levels within each pathway in the lower section of Table 1.

DISTILLING AND DISTINGUISHING EFFICACIOUS COMMUNICATIVE AND ENGAGEMENT VARIABLES

In line with Dutta's (2011) expansive view of communicative acts, distilling these three elements, primarily the first two given the absence of the latter from all but two initiatives, is germane for identifying how and with what efficacy communicative processes manifests during implementation. The communicative elements constitute a critical contribution, because though conceptually and technically consistent with the ethico-political consciousness necessitated by this critical research endeavour, Pelling's rare socio-culturally attentive framework lacks the necessary and corollary communicative guidance for enactment. Further, much of what underpins collective understanding of how to communicate climate change is stock knowledge drawn from communicative approaches to disparate issues across time and contexts (Moser, 2010; Corner, Markowitz & Pidgeon, 2014). Thus, Table 2 highlights distinguishing communicative elements associated with the varyingly promising projects that directly informs the action gap noted by Foxwell-Norton & Lester (2017) and illustrated by distinctions in the pathways conceptually offered by projects and how they materialize (see Table 1 above).

Table 2: Adaptation Variables and Elements Across Projects

Projects	Adaptation Variables		
	Communicative Elements	Engagement Modality	Socio-Political Elements
EU-GCCA	<ul style="list-style-type: none"> - Subsistence frame - Limited and issue-specific (irrigation) 	<ul style="list-style-type: none"> - Time-bound - Issue-specific (water scarcity) - Population-wide - Direct engagement of older men 	<ul style="list-style-type: none"> - None
C-CAP	<ul style="list-style-type: none"> - Limited and issue-specific (DRR) 	<ul style="list-style-type: none"> - Time-bound - Multiperspectival but circumscribed implementation - Population-wide - No cohort specificity - Employs traditional structures 	<ul style="list-style-type: none"> - None
VTI	<ul style="list-style-type: none"> - Comprehensive and multi-dimensional - Provision of information on a need-to-know basis - Demonstrative 	<ul style="list-style-type: none"> - Sustained over a decade - Multi-sectoral and integrative - Population-wide - Youth involvement but no decision-making influence - Individual and collective engagement of older men - Collective engagement of older women - Practical opportunities & training - Employs local frameworks and traditional structures (fully) 	<ul style="list-style-type: none"> - Engagement with local government within existing structures
PRAGATI-CARE-STEP	<ul style="list-style-type: none"> - Limited, contingent and issue-specific (on-going events e.g. weather), but primarily devoid of supporting information - Subsistence frame 	<ul style="list-style-type: none"> - Population-wide (variable) - Collective engagement with women but with disparate and limited focus - Implicit incorporation of climate change - Variably engage women and youth. - Varyingly offers practical training on a selective basis - Domain specific (farming and agro-forestry) 	<ul style="list-style-type: none"> - Rights-based perspective - Engagement with government at federal, state & sub-state levels and use of the legislative systems to seek restitution and reform
Forest Forever! Forests Ecosystem	<ul style="list-style-type: none"> - Subsistence frame - Limited and devoid of supporting information (except for variable selective individuals) 	<ul style="list-style-type: none"> - Population-wide (variable) - Explicit incorporation of climate change - Variably engaged women and youth engagement - Focused engagement on ad hoc basis - Domain specific (farming and agro-forestry) 	<ul style="list-style-type: none"> - Rights-based perspective - Engagement with government at federal, state & sub-state levels and use of the legislative systems to seek restitution and reform

Ya'axché Project	<ul style="list-style-type: none"> - Provision of information on a need-to-know basis - Demonstrative - Targeted and expansive but domain, activity and experience centred 	<ul style="list-style-type: none"> - Targeted - Variable Cohorts (Chiefly older men) - Domain specific (farming and agro-forestry) - Practical opportunities & training, including selective international exchange - Employs local frameworks and traditional structures (fully) 	<ul style="list-style-type: none"> - Engagement with national government within existing structures
Cohune Palm Nut Project	<ul style="list-style-type: none"> - Economistic-frame - No associative climate change information 	<ul style="list-style-type: none"> - Sustained for more than five years (ongoing) - Population-wide (primarily female management) - Employs local structures (instrumental) 	<ul style="list-style-type: none"> - Tackles root cause (fossil fuel consumption) in accordance with declared state and regional policy

While none of the projects manifest at the village level more promisingly than conceptualized, the majority (four of seven) manifested profoundly worse. Whereas all the Fijian projects manifested along the same pathways as conceptualized, all others resulted in weak or moderate levels of enablement for coping. In other words, the projects with the greatest promise manifests in the most limited fashion. Both Belizean projects (Ya'axché's and The Cohune Palm Nut Project) conceptually offer moderate and advance transition, respectively, but materializes as weak coping mechanisms at the village level, except for Ya'axché's efforts in Trio (moderate). The Indian projects, which are conceptually most promising, materializes with the greatest attrition. Laya's Forest Forever! Forest Ecosystem Project, which is conceptually most promising (moderate transformation) manifests as a weak coping mechanism. Similarly, PRAGATI-CARE-STEP, which conceptually enables (weak transformation), manifests as a mere coping mechanism in all four villages—half weak and half moderate.

While resources, primarily monetary and technical and adaptive starting-points are critical factors in the variation in project conceptualization and materialization across villages, the variables distilled in Table 2 are highly consequential given substantial variations in manifestation of projects—specifically, distinctions in implementation outcomes within the same village cluster (PRAGATI) and across similarly resourced projects operating in contexts with identical adaptive capacities (both Indian projects). This is typified by PRAGATI outperforming Laya's relatively more promising intents. Similarly, both promising Belizean projects are marginally realized with distinctions within the Ya'axché subset (Trio village) that render the intervention relatively more effective as a coping mechanism than the conceptually more expansive and better funded Cohune Palm Nut Project.

The consistency with which the three Fijian projects materialize relative to their conceptualization reinforces the primacy of the communicative and engagement modalities for realizing variously envisioned adaptation pathways with differential levels of enablement. All three projects vary in scope, nature, cultural attentiveness and duration. These engagement frames have corollary and associative communicative elements that materialize in differing levels of ideational enablement, which is necessary for mobilization of knowledge and agency. Specifically, VTI, the most promising Fijian initiative conceptually and programmatically (overall), features comprehensive multi-sectoral and integrative, population-wide and cohort specific engagements, including youth and women, over a sustained period approximating a decade. It also deploys practical opportunities and training and functions in full accordance with local frameworks and traditional structures. These expansive engagement modalities are supported by corresponding communicative actions, which are framed in comprehensive and multi-dimensional formats, chiefly demonstrative and primarily provided on a need-to-know-basis. On the other hand, the EU-GCCA and CCAP Project, which conceptually and programmatically offers weak and moderate coping, respectively, are limited in scope, (issue-specific and circumscribed, respectively), levels of engagement and use of traditional structures and frameworks (C-CAP only). Whereas C-CAP only employs rudimentary population-wide engagement, the EU-GCCA initiative's marginally more expansive approach only adds a single cohort specific element: older men due to their culturally defined belongingness to the domain of action (farming and irrigation).

All other projects manifested in weak coping, except PRAGATI-CARE-STEP's actions in Itikalikota and Palem (India) and Ya'axché's actions in Trio (Belize). The distinctions in the nature and scope of engagement, and their associated communicative elements, accounts for the outlying villages. The engagement modalities and communicative elements deployed by the projects in the three outlying villages compares more favourably with the expansive elements observed within VTI. Similarly, the other eight villages, where the respective projects enable weak coping, features elements more comparable with the limited elements deployed in Seaqaqa.

The consequential correlations between the nature and scope of engagement modalities and corollary associative communicative elements illuminates several critical pointers about how to attenuate the profound gap in understanding of how to raise public consciousnesses and mobilize publics to act on climate change (Foxwell-Norton & Lester, 2017). Specifically, limited, issue-specific and economic frames are ineffective, particularly where associated information is marginal or absent. Conversely, the most effective communicative and general engagement modalities include sustained multi-year, comprehensive and multi-dimensional information provision in a demonstrative fashion, and on a need-to-know-basis. The expansive communicative and engagement frame also includes efficacy building mechanisms,

such as training, specific guidance towards and access to alternatives including new crop varieties, maximal incorporation of local frameworks and traditional structures, as well as broad, cross population engagement. The three outlying villages identified reinforce this finding and indicate the determinative role of the nature, form and quality of communicative and engagement elements. Both Itikalakota and Palem, where PRAGATI-CARE-STEP is differentially enacted, benefitted from cross-cohort engagement, including limited and highly selective efficacy building mechanisms. These potentially enabling elements are absent in other villages engaged by PRAGATI and correlates with distinctions in knowledge levels and mobilization. While they enable moderate coping in both villages rather than the weak form discerned in the remainder of the entire Indian sub-set, these critical communicative elements were sub-maximal and infrequent, namely the engagement of women and youth, rate and scope of training provided and the absence of focused engagement. These contexts have also been exposed to a reactionary rather than programmatic form of information provision on a need-to-know basis, which demarcates limits to the efficacy of the information provision mechanism induced by contingent deployment.

The period of engagement is also a decisive factor, where the expansive frame is deployed with sub-maximal population reach and scope. This is typified by Trio, the third outlying village noted, where engagement is targeted and enacted with domain specificity. However, as previously observed, the comprehensive, sustained and direct engagement of a self-motivated sub-set of the population, including a specialist group, within a domain of shared interest (farming in Trio) accrued population-wide knowledge advantages that distinguishes the village in terms of climate knowledge, even among the single most inform deprived demographic (older women) in the study. The maximal incorporation of local frameworks and traditional structures in the most enabling intervention (VTI) and this cultural disposition's presence in half of the villages that enables moderate coping, also magnifies the import of trust and the socio-cultural as crucial contextual communicative factors for optimizing the communicability of climate change. It poignantly highlights the centrality of communication for the perpetuation of knowledge and a need to accord greater attentiveness to traditional communicative frameworks and systems. Greater attentiveness to traditional frameworks/worldviews and communicative systems which function multifactorially (e.g. religion, holistic purviews, nature, group membership and status) is paramount as they generally contrast with exogenous communicative and belief systems (Mundy & Compton, 1993).

WHAT'S NEXT?

While the illuminations offered by this study are significant, optimal consciousness raising and mobilization of action amidst unrepresented climate change necessitates scrutiny of some critical aspects uncovered but insufficiently probed by this study. Chiefly, greater scrutiny of the significance of group membership, including but not limited to standard macro-sociological segmentations, in climate knowledge formation and improvement given its salience and positive distinctions, particularly in Trio and Flower's Bank, Belize. Relatedly, there is great need to clarify mechanisms for leveraging cohort-specific engagement across age and genders, while managing the multi-factorial and individually differentiated ways socio-cultural limits and blockages (namely religion and nature) to climate messaging and actions materialize. Crucially, concerted critical attention should be accorded to augmenting fissures in the availability, relevance and accessibility of manifestly credible communicative mechanisms, particularly for underserved cohorts, such as older women and disadvantaged groups such as youth (identified as 18 to 29 years) whose natural source is distal (school). Critical attention should also be accorded to identifying and clarifying potential sources of manifestly credible information that can constitute a socio-culturally suitable source for older women, which Hall found to be the only demographic without an organic or socio-culturally primed form. Evidence of a dominant socio-tropic risk disposition and the marginal cognizance of human progeny as a motive for action, even where risk specification is observed, also strongly suggests a need to probe the efficacy and resonance of widespread progeny frames in climate change campaigning and policy pronouncements.

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Papers should conform to the following format:

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The Harvard system of referencing should be used

Papers should be prepared as a Word file (Graphs, pictures and tables should be included as appropriate in the same file as the paper) and should be sent to Bart Cammaerts (b.cammaerts@lse.ac.uk)

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