

Bridging Knowledge and Practice: A Values-Based Approach to Coastal Adaptation

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Author's Note

This literature review was conducted with the intention of inspiring a more intentional approach to leveraging values-based approaches in coastal adaptation. Driven by a desire to innovate - defined as putting knowledge to use, whether new, accumulated, or applied creatively - this work aims to translate existing research into practical recommendations. Innovation, in this context, involves finding great ideas or solutions from others and adapting them to new contexts.

This review synthesizes current cutting-edge knowledge on values-based approaches to climate change adaptation and science communication. By connecting a broad body of research to practical recommendations, we aim to make this knowledge accessible and actionable.

We have drawn upon a wide range of sources, including academic research, policy documents, and grey literature available in the public domain. Every effort has been made to accurately cite these sources, acknowledging the invaluable contributions of authors and institutions whose ideas have informed this work.

The ideas and examples presented are intended to be thought-provoking rather than exhaustive or definitive. The aim was to highlight useful concepts, proven strategies, and techniques that practitioners can incorporate into their work or use as a starting point for further exploration. We hope you find this report insightful and useful.

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Disclaimer

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This project was conducted under the mentorship of the Living with Water (LWW) team. The opinions and recommendations in this report and any errors are those of the author and do not necessarily reflect the views of Living with Water or the University of British Columbia.

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Literature Review on Science Communication of Values-Based Approaches in Coastal Adaptation

1. Introduction

1.1 Project Background & Overview:

Living with Water is a collaborative initiative funded by the Pacific Institute for Climate Solutions, addressing the challenges of sea level rise and increased flood risks along British Columbia's South Coast. With a diverse, multidisciplinary team, the initiative aims to help communities adapt to these threats. Given that sea level rise affects over 60% of the global coastal population, Living with Water seeks to provide decision-makers, planners, and communities with new perspectives, resources, and decision-support tools to foster innovative and collaborative coastal flood adaptation solutions.

The initiative prioritizes creating socially and ecologically inclusive coastal environments and aligning coastal adaptation with decolonization principles. It acknowledges the need for a fundamental re-examination of colonial institutions and researchers' practices, including value systems, community engagement processes, governance systems, regulatory frameworks, and planning horizons. By doing so, Living with Water aims to amplify marginalized voices, expand the range of solutions, and develop just, integrated, and cross-jurisdictional adaptation measures.

Consequently, Living with Water advocates for a values-based approach to coastal and flood adaptation. This approach seeks to foreground local Indigenous knowledge and perspectives, enhance community engagement, build trust, promote inclusivity, and support the adoption of policies that are both scientifically sound and socially acceptable. Such an integrated approach is essential for the long-term success of coastal communities in adapting to the challenges posed by climate change.

Despite the growing emphasis on values-based approaches in climate change and coastal adaptation planning, there remains a significant gap in effectively communicating their potential and importance for coastal and flood management. Additionally, there is a notable lack of understanding regarding the practical implementation of these approaches. To address these issues, Living with Water, as part of the Sustainability Scholars Program, commissioned this literature review. The goal is to enhance public understanding of values-based approaches and provide a practical guide for integrating these strategies into coastal and flood adaptation practices. Living with Water aims to highlight the importance of values-based approaches for diverse stakeholders involved in coastal and flood adaptation, build trust between the scientific community and the public, and support informed decision-making.

This report synthesizes findings from a comprehensive review of relevant literature to address the research questions below related to values-based approaches in coastal adaptation.

1.2 Research Questions Explored in the Literature Review:

- What are values-based approaches crucial for coastal adaptation planning and practices?
- What are the key elements that constitute values-based approaches in coastal adaptation planning?

- How have values-based approaches been applied in known coastal adaptation projects and processes, and what outcomes have been reported?
- What are the common barriers and facilitators to integrating values-based approaches into coastal adaptation strategies?
- How can science communication strategies improve the understanding and acceptance of values-based approaches among non-technical audiences?
- What specific recommendations can be made for stakeholders on how the findings can be implemented or integrated into coastal adaptation strategies?

This report provides a concise overview of a literature review addressing values-based approaches in coastal adaptation. It emphasizes the significance of incorporating values into coastal adaptation initiatives to facilitate informed decision-making and effective adaptation responses.

The report summarizes how values are conceptualized, operationalized, and integrated into coastal adaptation strategies within the reviewed literature. Intended for practitioners and program staff involved in implementing adaptation projects, this report highlights lessons learned and identifies potential entry points for integrating values-based approaches into programs and practice. Additionally, it offers practical insights and guidance on effectively integrating these approaches into any initiative to enhance the overall impact and sustainability of coastal adaptation efforts.

1.3 Scope and Structure of the Review

To inform the literature review, the first section of the report presents key definitions, including those by the Intergovernmental Panel on Climate Change (IPCC) for 'Adaptation' and 'Adaptive Capacity'. This is important for highlighting how several crucial terms related to a values-based approach to coastal adaptation are used throughout the report.

The subsequent sections focus on how the reviewed documents conceptualize values and a values-based approach to adaptation. This involves understanding the different definitions and interpretations of values as presented in the literature and how these values influence individuals' and communities' perceptions and behaviors related to coastal adaptation. By examining these conceptualizations, we gain insight into the foundational principles that drive a values-based approach to adaptation.

We also map out how values drive strategies and actions in managing and adapting to the impacts of climate change and other environmental changes on coastal areas, linking this to the notion of social acceptance of adaptation measures. People's values influence their perception and acceptance of solutions and processes, determining the most suitable strategies and the trade-offs worth making. The literature suggests that people do not passively receive information; rather, their values actively shape their responses and decisions. They weigh information against their personal experiences and values, leading to different behaviors and actions.

This mapping process involved identifying the pathways through which values influence decision-making and actions related to coastal adaptation. This section highlights how individuals' values influence their understanding and assessment of risks associated with coastal changes and how these values shape their reactions to information and strategies communicated about coastal adaptation. By exploring these dynamics, the review aims to provide insights into how coastal adaptation practitioners can integrate a values-based approach to enhance the effectiveness and outcomes of coastal adaptation efforts.

Additionally, we highlight how various academic articles operationalize values. We explored the practical ways in which values are incorporated into adaptation planning, design, implementation and evaluation of initiatives, and communication strategies. By analyzing these operationalizations, we can see how theoretical concepts of values are translated into actionable steps and practical measures.

We then examine the implications of value-driven approaches to adaptation, including the challenges and limitations of integrating these approaches into adaptation planning and practice. This involved exploring potential obstacles, such as differing values among rightsholders and stakeholders, resource constraints, and the complexity of measuring and aligning values with adaptation goals. Understanding these challenges is crucial for developing strategies to overcome them and effectively incorporate values into adaptation efforts.

Finally, we identify evidence-based practices for the effective communication of a values-based approach to coastal adaptation. These practices are derived from the literature and are intended to guide practitioners in crafting communication strategies that resonate with diverse audiences. By focusing on these evidence-based practices, practitioners can enhance the effectiveness of coastal adaptation communication, ensuring it is relevant, engaging, and capable of driving meaningful action.

1.4 Methodology

This report was compiled through a comprehensive review of existing literature on best practices in science communication around values-based approaches to coastal adaptation. We initiated the process by identifying academic papers, government policy documents, and grey literature, in collaboration with Living with Water, who provided relevant materials and documents.

All identified literature was systematically documented in a spreadsheet, and an annotated bibliography was created for academic papers, which is available upon request. Each piece of literature was briefly assessed and prioritized based on its relevance to the project and the literature review questions outlined in the project scope. The literature was categorized into three main groups: academic papers, government policy documents, and other grey literature. The documents given a high priority within each category were reviewed to identify pertinent themes for the literature review.

2. Definitions

Adaptation:

The IPCC defines adaptation as an adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities [Glossary of Terms - IPCC](#). There are various types of adaptation including anticipatory and reactive adaptation, private and public adaptation, and autonomous and planned adaptation. This report focuses on the latter—Planned Adaptation that results from a deliberate policy decision based on an awareness that conditions have changed or are about to change, requiring action to return to, maintain, or achieve a desired state.

Adaptive Capacity:

The IPCC defines adaptive capacity as the ability of a system to adjust to climate change, including climate variability and extremes, to moderate potential damages, take advantage of opportunities, or cope with the consequences [Glossary of Terms - IPCC](#).

Science Communication:

This refers to the process of making scientific knowledge and methods understandable and engaging for non-expert audiences thus promoting informed decision-making and public engagement.

Values-Based Approaches:

These approaches prioritize and integrate values— cultural, social, and ethical considerations— into decision-making processes. In coastal adaptation, this entails considering the values and priorities of local communities when planning and implementing strategies to address coastal changes and challenges.



SECTION 1

3. Conceptualizing Values

The central theme throughout the academic papers reviewed is the importance of values-based approaches to address coastal changes and challenges. The literature review underscores the crucial role values play in driving behavior change, which can either hinder or help achieve adaptation goals. In this context, behavioral change broadly refers to adaptation at the individual level and adaptive capacity at the organizational level.

The key takeaway is that by understanding and prioritizing values, policymakers and practitioners can encourage the specific behaviors necessary for successful adaptation at the individual, community, and organizational levels. The documents reviewed consistently emphasize the need to engage with culture, social norms, and individual values. A values-based approach is essential for understanding why people may or may not take specific actions in the context of adaptation.

Values are defined as deeply held beliefs that guide our attitudes and actions (behavior). Adger et al. (2009) define values as personal or societal judgments of what is valuable and important in life. Values drive action by shaping how societies establish rules and institutions to manage risk, navigate social change, and allocate scarce resources (Adger et al., 2009, p. 338)

Artelle et al (2018) describe values as “roots of the tree” that connect people to place at a given scale and form the foundation of the values-led environmental management approach but are often not obvious or visible to outside observers (Artelle et al., 2018, p. 6). For instance, environmental management systems based on values linked to a strong sense of place and enduring relationships are likely to be more successful than those focused solely on maximizing financial profit or economic growth (Artelle et al., 2018, p. 5).

According to Artelle et al. (2018) when the core values of a management approach emphasize community, sustainability, and long-term connections, it is more likely to gain the trust and cooperation of the people it affects. These values resonate with individuals and communities on a deeper level, fostering a sense of shared purpose and commitment. In contrast, management systems driven by the pursuit of financial gain or relentless economic expansion often overlook the human and environmental aspects, leading to short-term benefits but potential long-term instability and conflict. By prioritizing values that emphasize connection to place and community, environmental management systems can create a foundation for sustained collaboration, resilience, and mutual support. This approach not only enhances the likelihood of achieving successful outcomes but also contributes to the overall well-being of the community and the environment.

Types of Values

Several of the reviewed articles differentiate between visible and invisible values, direct and indirect values, and inward-looking and outward-looking values, highlighting their implications for decision-making.

While a comprehensive review of all types of values and their implications is beyond the scope of this research, it's important to note that practitioners often consider visible values when designing interventions such as economic cost-benefit analyses and technical feasibility. In contrast, individuals and communities (the public) frequently rely on invisible values to decide whether to engage or take action (or inaction) based on information or awareness about adaptation. For example, deeply held intrinsic values about the importance of the environment can motivate individuals to engage in conservation efforts. In contrast, economic or material benefits may influence policymakers to prioritize adaptation strategies that protect economic interests.

Being aware of and addressing the information asymmetry between practitioners and communities is essential for the success of coastal adaptation. Practitioners need to focus not only on visible values, but also on understanding and incorporating invisible values that matter to communities, such as cultural and Indigenous rights, equity, climate and environmental justice, and personal experiences (Environment and Climate Change Canada, 2023, p. 16).

Below, we briefly discuss the distinctions between types of values we found most relevant:

3.1 Values and their Role in Individual and Collective Adaptation

Values play a crucial role in how we perceive and respond to climate change. They shape our vulnerability and guide our adaptation strategies (Wolf et al., 2013). Essentially, values determine what people believe is important to protect and achieve during climate adaptation (O'Brien & Wolf, 2010).

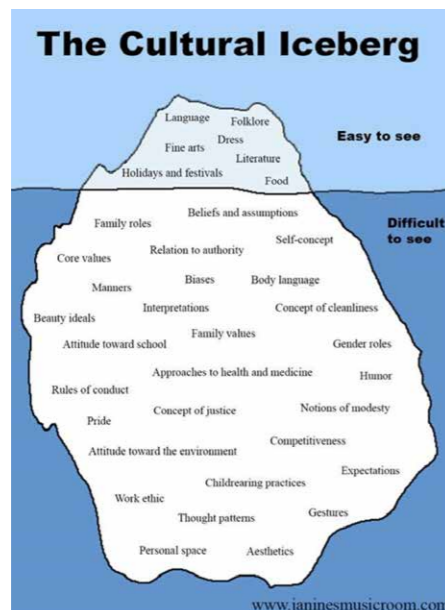
However, current methods for valuing loss often overlook cultural and symbolic values, focusing instead on tangible assets. This can lead to an undervaluation of what truly matters to communities (Adger et al., 2009). Assessing intangible losses—such as emotional distress, loss of knowledge, sense of place, social cohesion, and identity—is challenging. These losses are not easily visible or quantifiable, so they are often left out of loss databases and insurance claims. Additionally, existing loss databases tend to focus on high-impact events, missing the gradual changes that can have significant ripple effects (Tschakert et al., 2017).

“Climate change disruptions have both direct and indirect impacts on people in Canada, including inequitable recovery from disasters, the loss of jobs or profitability, inflation, decreased value of homes and savings, increased danger or difficulty at work, on the land, or in accessing basic needs. Loss of livelihoods can also have direct connections to our well-being, culture, and sense of self” ([Environment and Climate Change Canada, 2023, p. 9](#)).

Intangible values, like those related to landscapes, are harder to measure and often ignored in conventional assessments. Stephenson (2008) distinguishes between surface values (like aesthetic and ecological significance) and embedded values (such as practices, relationships, history, and archaeology). Traditional landscape assessments often miss the full range of cultural values because they use standardized criteria. Surface values are about immediate, perceptual responses to landscapes, while embedded values come from an understanding of a landscape’s history and traditions.

Indigenous Peoples: Identity, Culture, and Climate Adaptation

First Nations, Inuit, and Métis have deep-rooted relationships with the land, waters, ice, animals, and plants. Their histories are rich with experiences of living on, adapting to, and caring for their environments. Indigenous Knowledge Systems encompass intergenerational knowledge, legal frameworks, governance structures, values, worldviews, and relationships. These systems provide strength and resilience, positioning Indigenous Peoples as leaders in climate change adaptation ([Environment and Climate Change Canada, 2023, p. 9](#)).



Culture as an Iceberg: Most of what constitutes culture is hidden beneath the surface, much like an iceberg. This hidden part profoundly impacts adaptation and adaptive capacity. Culture involves shared ways of understanding and interpreting the world, and its core is not immediately visible. According to [Fons Trompenaars and Charles Hampden-Turner](#), all cultures address universal human problems, but each culture has different solutions.

Stephenson (2008) also differentiates between ‘culture,’ ‘value,’ and ‘cultural values.’ Stephenson (2008) explains that the concept of ‘value’ has evolved from being intrinsic and universal to being a social construct influenced by cultural contexts. Values vary significantly among individuals and groups based on cultural, social,

and personal experiences. Understanding these values helps us see how culture interacts with environmental change and influences perceptions and responses to climate effects. People attribute ‘value’ to specific objects or aspects of the landscape. Understanding how a landscape is valued involves recognizing both the nature of the valued entity and the nature of the expressed values. These values do not speak for themselves; they only become apparent when expressed by those within the cultural context or observed and understood by others.

From these evolving meanings of culture and values, ‘cultural values’ refer to values that are either shared by a group or community or given legitimacy through a socially accepted way of assigning value. Stephenson (2008) points out that landscapes can be valued in multiple ways—both by those within a cultural group and by disciplinary experts. Here, ‘cultural values’ include not only attributes traditionally considered part of ‘culture,’ such as stories and myths but also attributes that might be considered part of ‘nature’ yet valued culturally. For example, in New Zealand, there is significant cultural value placed on preserving natural landscapes like native forests and pristine coastlines. This broad definition highlights how cultural values integrate and respect both cultural and natural heritage, shaping collective and individual actions and responses.

3.2 The Role of Values in Enhancing Organisational Adaptive Capacity

Furness and Nelson (2016) identify three types of values influencing organizational behavior: normative values, transcendence values, and opportunity values. These can guide organizations toward balancing public-serving and organization-serving motives.

Normative values are based on societal norms and beliefs. Transcendence values, on the other hand, focus on the welfare of others and the environment, going beyond the organization’s immediate interests. Transcendence values manifest in prioritizing community consultation and involvement, environmental stewardship, and innovation ([Furness & Nelson, 2016](#)).

Organizations driven by transcendence values tend to emphasize community involvement and environmental considerations, spending more time understanding climate impacts and exploring risk reduction strategies compared to non-adaptive organizations ([Furness & Nelson, 2016](#)).

Opportunity values entail seeing climate change not just as a challenge but also as an opportunity for growth and innovation. Organizations with these values are more likely to embrace new methods and solutions, enabling them to adapt dynamically to changing environmental conditions ([Furness & Nelson, 2016](#)).

We recommend several key sources for those interested in a deeper exploration of values, emotions and their implications for adaptation and adaptive capacity. Corner (2018), Leiserowitz et al. (2023), Neufeld (2020), and Valuegraphics (2020) provide insightful analyses of how values influence public engagement with climate change. These sources demonstrate how a thorough understanding of values can enhance climate change communication and practice.

4. A Values-Based Approach to Adaptation

A values-based approach to adaptation prioritizes and integrates values, such as cultural, social, and ethical considerations, into decision-making processes. In coastal adaptation, this means considering the values and priorities of local communities when planning and implementing strategies to cope with coastal changes and challenges. Unlike traditional approaches, a values-based approach shifts the focus from merely characterizing vulnerability and developing interventions or policy responses to understanding how diverse values shape adaptation processes and responses to climate change. It considers the barriers to adaptation that may arise from diverse and competing values, providing important insights into the subjective dimensions of climate change [\(Wolf et al., 2013, p. 558\)](#).

A values-based approach emphasizes the need to explore and integrate the different values held by individuals and communities, recognizing that these values influence how people perceive risks, prioritize actions, and make decisions. Diverse values underpin adaptation responses, defining subjective limits to adaptation, emphasizing the need to recognize implicit values and interests for effective adaptation interventions [\(Adger et al., 2009, p. 350\)](#). This approach highlights the importance of social acceptance and the role of values in determining what adaptation measures are considered acceptable or desirable. It brings to light the underlying motivations and concerns that drive people’s willingness to support or oppose certain interventions, thus informing more context-sensitive and culturally appropriate adaptation responses.

Values-based approaches are crucial to adaptation planning and practice because they ensure that strategies are deeply rooted in the specific cultural, environmental, and historical context of a place. Values support and sustain relationships between people and the environment by guiding behaviors, decision-making, and management approaches that prioritize the long-term health and productivity of ecosystems which in turn support human well-being [\(Artelle et al., 2018\)](#). Thus values-based approaches recognize that successful adaptation is not just about technical and scientific solutions but also about the local values, knowledge, and relationships that people have with their environment [\(Wolf et al., 2013\)](#).

“Adaptation efforts can only be effective when they are rights-based, include local leadership, and reflect unique regional and local climate change conditions and circumstances, including values and cultures”[\(Environment and Climate Change Canada, 2023, p. 17\)](#).

Artelle et al [\(2018\)](#) define values-led management as management with practices, policies, and objectives underpinned and guided by coherent and consistent values, particularly those that connect people to place (at any scale) and that can form the foundation for sustained relationships [\(Artelle et al., 2018, p. 5\)](#).

Key reasons cited in the documents reviewed as to why values-based approaches are critical to adaptation include:

	Inclusivity	Integrates knowledge and perspectives from rights holders and stakeholders, particularly indigenous communities, ensuring that adaptation plans are culturally sensitive, appropriate, and widely accepted.
	Sustainability	Adaptation strategies informed by local values are more likely to be sustainable because they align with the community’s long-term environmental and social goals.
	Resilience	Local values often reflect a deep understanding of the environment and its variability, which is crucial in building community resilience against climatic changes.
	Ownership	When communities see their values reflected in adaptation planning, they are more likely to take ownership of the adaptation processes, leading to more robust and sustained implementation.
	Social-Ecological System Health	Values-led adaptation planning addresses not just economic or infrastructure resilience but also the health and integrity of the whole social-ecological system.
	Moral and Ethical Considerations	By grounding adaptation in a values-based context, moral and ethical considerations are brought to the forefront, ensuring that the well-being of all members of the community, including non-human entities, is considered.

4.1 Pathways through which Values drive Action

The five core attributes of values in definitions advanced by various scholars are: “(1) they are concepts or beliefs, (2) about desirable end states or behaviors, (3) transcend specific situations, (4) guide selection or evaluation of behavior and events, and (5) are ordered by relative importance” [\(Schwartz & Bilsky, 1987; Vinken et al., 2004; Wolf et al., 2013\)](#). These attributes highlight the abstract and enduring nature of values that give meaning to behavior and events, influencing perception and interpretation of situations [\(Wolf et al., 2013\)](#).

Values are important in influencing adaptive capacity, with values guiding individual actions and behaviors (Furness & Nelson, 2016, p. 249). Values translate into action by framing how societies develop rules and institutions to govern risk, manage social change, and allocate scarce resources. Values are manifested in processes and institutions regulating behavior rather than just in outcomes (Adger et al., 2009, p. 338).

The Process of Activating Values

To illustrate how values drive action, Schwartz (2004) identifies four key processes: (1) values must be activated by the context or information presented, (2) motivate certain actions over others, (3) influence perception and interpretation of situations, and (4) when activated, influence the planning of action (Wolf et al., 2013, pp. 551, 560).

1. Values Activated by Context or Information

Values do not operate in isolation; they are activated by the context or the way values are communicated in information on adaptation. When individuals are exposed to communications about, or experience, flooding, certain values become more salient. For instance, in a coastal community facing the threat of sea-level rise, the value of environmental stewardship may be activated by information about the risks and potential impacts.



Values must be brought to the forefront and made explicit. This involves finding ways to engage and activate values, whether they are inherently held, implicitly understood, or explicitly recognized by individuals. Effective communication and strategic framing are crucial in this process. Often, stakeholders and practitioners start by discussing problems or proposing solutions, but beginning with values leads to more effective communication. As Rockridge Institute (2006) emphasizes, **“Issues are secondary - not irrelevant or unimportant, but secondary. A position on issues should follow from one’s values, and the choice of issues and solutions should symbolize those values.”**

2. Values Motivate Certain Actions (Behavior) over Others

Once activated, values serve as guiding principles that motivate individuals to choose certain actions over others. Values directing behavior in ways that align with deeply held beliefs. For example, individuals who prioritize sustainability are more likely to engage in behaviors that reduce their carbon footprint, such as using public transportation or supporting renewable energy initiatives. This motivational role of values ensures that actions are consistent with what individuals deem important.



Values thus serve as powerful motivators, leading individuals to prioritize certain actions over others. The way we present information significantly influences judgments about what is important. By making certain values salient, we can ensure they dominate over less emphasized ones. This prioritization is crucial for guiding decision-making. Therefore, framing and emphasizing the right values help people make informed and value-aligned decisions.

3. Values Influence on Perception and Interpretation of Situations

Values also shape how individuals perceive and interpret various situations. They provide a lens through which experiences and information are filtered, influencing what is noticed and how it is understood. In the context of climate adaptation, a person who values community well-being may perceive a proposed adaptation measure not only in terms of its technical effectiveness but also in terms of its social equity and inclusiveness. This interpretive role of values can help practitioners frame issues in a way that aligns with individual or collective priorities.



Contrary to the belief that “truth doesn’t need to be framed” and that the “facts speak for themselves”, providing a broader context is essential for informed decision-making (Rockridge Institute, 2006). Without framing, people may struggle to make sense of complex issues. By presenting issues within a value-laden context, we help individuals interpret situations in a way that aligns with their values, facilitating more informed and meaningful responses.

4. Values Influence on Planning of Action

When values are activated, they guide the planning and execution of actions—from setting goals and priorities to determining the means to achieve desired outcomes. For example, a community that values resilience may develop holistic adaptation plans that include building flood defenses, implementing early warning systems, and engaging in community education. The planning process is thus informed and directed by the most salient values, ensuring that the actions taken are aligned with those values.



Whether values are implicit or explicit, they need to be harnessed and activated to influence decision-making processes. By integrating values into the planning stages, we ensure that actions are aligned with the values that individuals and communities hold dear, leading to more effective and sustainable outcomes.

Values play a crucial role in shaping vulnerability and adaptation by influencing how climate impacts are perceived and how adaptation occurs (Wolf et al., 2013, p. 551). Wolf et al. (2013) emphasize that adaptation is not just a technical challenge but is deeply interconnected with cultural values and social norms, which must be taken into account to develop effective and sustainable adaptation strategies. Understanding the values and socio-economic and psychographic characteristics of those at risk is crucial. It helps us comprehend their perceptions of impact distribution and adaptation responses. This insight is essential for ensuring that adaptation efforts are fair and equitable, both now and in the future (Barnett & Mahony, 2011; Graham et al., 2014).

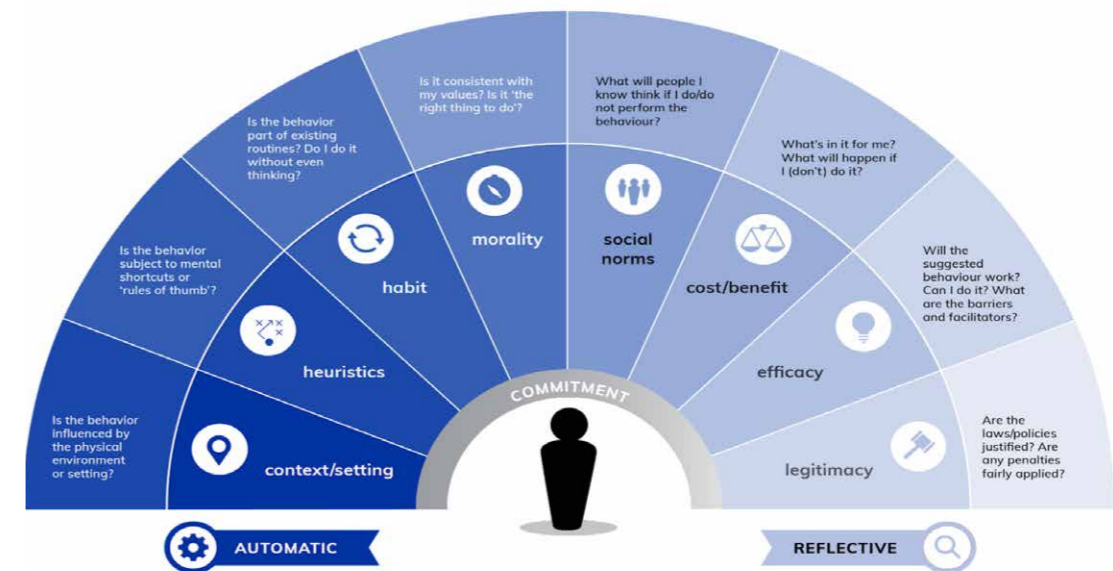
4.2 Factors that Influence the Relationship between Values & Behavior (Intention-Action Gap)

In their article on adaptation and organizational adaptive capacity, Furness and Nelson (2016) highlight a crucial point: the relationship between measured values and behavior is complex and influenced by various factors. These factors represent the considerations that individuals, communities, or organizations take into account—regardless of shared values—when deciding whether to take action—to adapt or not to adapt. Furness and Nelson (2016) draw attention to the intention-action gap, where the desire to act is present but not necessarily translated into action due to various influences.

Similarly, Adger et al. (2009) note that the success of adaptation initiatives depends significantly on how well individuals' motivation to act is harnessed. At the individual level, it is well established that people's values can fail to translate into their actions or behaviors. For instance, individuals with low self-efficacy or an external locus of control often do not perceive themselves as capable of addressing perceived threats. This creates an intention-action gap: while the individuals may aspire to shared values, their low self-efficacy prevents them from believing they can effectively act in alignment with these values.

Low self-efficacy thus becomes a barrier to adaptation because it undermines intrinsic motivation. Therefore, when designing adaptation interventions, it is crucial to look beyond values alone. Enhancing self-efficacy through extrinsic motivation might involve refocusing efforts on external factors influencing people—what makes it easy or hard for them to do what they want to do? Adger et al. (2009) highlight that the determinants of adaptive and mitigative capacity are essentially the same, suggesting that adaptive initiatives can effectively use a similar bottom-up approach. Often, people have the motivation to act, but necessary supports or conditions might be missing. By addressing these internal and external factors, we can help bridge the gap between intention and action.

The illustration below, adapted from Laure Van Hauwaert and Sean Larkins (2021), offers a nuanced understanding of the factors influencing behavior by integrating both conscious and unconscious influences. It encompasses a broad spectrum of influences, ranging from individual factors like heuristics, habits, and efficacy to social norms and environmental context. This comprehensive approach is essential for understanding the intention-action gap.



Source: (Hauwaert & Larkins, 2021)

The articles reviewed consistently point, either explicitly or implicitly, to the factors highlighted above as either barriers or facilitators in mediating the relationship between values and behavior (action) in decision-making related to adaptation.

When considering other factors outside of individual control, behavior is heavily shaped by context. The key finding from the reviewed literature is that context is the main determinant of behavior. Context-driven behavior tends to become automatic, often surpassing other influencing factors. Consequently, changing this behavior involves more than just focusing on individuals; it requires modifying the conditions that promote or hinder the desired behavior.

Additionally, the articles reviewed frequently cite heuristics, though the terminology may vary. Heuristics are mental shortcuts or rules of thumb that guide decision-making due to our cognitive limitations, such as limited time, information, and computational capacity. Heuristics play a crucial role in decision-making, helping us navigate complex situations with limited resources. Regardless of one's values, context and heuristics often have a significant influence, sometimes overriding other factors.

Understanding these aspects is essential for a values-based approach to coastal adaptation. By gaining a foundational understanding of behavior influences and how they interact with values, practitioners can better identify behavior barriers and facilitators. This knowledge is critical when engaging with communities and promoting desired actions. Evidence from community-based initiatives suggests that individuals can be empowered to implement behavioral changes through programs that (a) encourage consideration of environmental and societal impacts and (b) provide a supportive environment for decision-making (Adger et al., 2009, p. 345).

Context Makes Behavior Automatic	Social norms powerful influence on adaptive capacity
<p>Artelle et al. (2018) provide a compelling example of how context influences the achievement of adaptation goals. In exploring potential opportunities and avenues for values-led environmental management, they highlight the postcolonial realities faced by present-day indigenous communities as significant contextual barriers. These communities, still suffering from the long-term effects of colonization—including loss of access to land, wealth disparities, and impacts on health and well-being - may have limited capacity to engage in the development or resumption of values-led management approaches.</p> <p>More generally, we all operate within the context of scarcity—whether it's time, money, resources or mental bandwidth. Scarcity—a gap between the needs and the resources required to fulfill them—makes it more challenging to make optimal decisions and achieve desired outcomes. For instance, lacking money or time can lead to poorer decisions, as poverty imposes a cognitive load that saps attention and reduces effort (World Bank, 2015, p. 82).</p>	<p>Similarly, the findings by Furness and Nelson (2016) reveal that values, social capital, and community involvement play a significant role in enabling adaptive capacity among organizations, more so than access to economic or human capital. Furness and Nelson (2016) discuss social capital as a multifaceted concept that enhances collaboration among people, enabling them to work together on common goals. Social capital is defined as the social norms and networks that facilitate cooperation and plays a crucial role in communities' ability to adapt to climate change risks, enabling collective management of environmental resources. In community forest management, social capital is considered essential for organizing and maximizing benefits, even in the absence of other resources like money or equipment (Furness & Nelson, 2016, p. 247). Additionally, Furness and Nelson (2016) found that adaptive organizations had a greater understanding of climate change impacts, engaged in more observation of these impacts, and were less hindered by a lack of economic capital compared to non-adaptive organizations.</p>

5. Operationalizing values

“Values alone are insufficient for effective environmental management. Although values form the foundation in this system, they require institutions to enact them. At the individual level, it is well established that people’s values can fail to translate into their actions or behaviors. This can be in part because of competing values, self-interest, or because extenuating circumstances might divert individuals from fully enacting their own or their society’s values” (Artelle et al., 2018, p. 5).”



Operationalizing values within a project/ collaboration can be effectively achieved through various entry points, including principles, practices, and the different stages of design, implementation, and evaluation of programs, policies, products, or procedures.

Principles:

Values provide the foundational beliefs that principles are built upon. Principles translate abstract values into concrete actions and behaviors. They serve as practical guidelines that ensure all actions and decisions by individuals, organizations, and communities align with their values in everyday practices.

Principles are the beliefs and philosophies that guide action. Every program is based on certain principles, though these are often not explicitly stated or described. People frequently choose what to implement based on the principles embodied by the action. When an action is not a good fit or face resistance, it is often because the underlying principles are not aligned with the context or the stakeholders involved. For example, a municipality may design and implement a project based on a clear set of principles, but if these do not align with the values of residents, interest groups, and other stakeholders, the resulting project outcomes are unlikely to be accepted or adopted by the local community. Essentially, principles connect people to the ‘why’ behind the actions being taken. When it comes to adaptation, it is important to focus not only on changing practices but also on questioning and challenging the values upon which the underlying principles are founded.

In the context of values-based coastal adaptation, both the values and principles underlying decision-making must be made visible and transparent. This means explicitly identifying and communicating the diverse values that influence adaptation strategies. An inclusive process for generating these values is essential to ensure that all voices are heard, particularly those of marginalized communities and individuals who will be most impacted by coastal adaptation decisions.

Example Guiding Principles

The Lower Fraser Floodplains Coalition has held several forums with First Nations, local communities, farmers, and other stakeholders in the region to develop shared guiding principles to inform decision-making around floodplain management in the region. The principles include:

1. Understanding and reducing risk in a changing climate in accordance with the Sendai Framework on Disaster Risk Reduction;
2. Advancing reconciliation, with particular attention to Articles 18, 19, 29, 32 of UNDRIP;
3. Ensuring that salmon and the coastal and freshwater ecosystems they depend on are thriving;
4. Everyone is part of the solution – there are many siloes in planning, decision-making and actions on the ground in the lower Fraser, and a more holistic and collaborative approach to managing flood risks is needed;
5. Sustainable economies and resilient communities for the long term – we need a shared vision for the future and a plan to measure progress and ensure accountability.

More information about these forums can be found here: <https://www.resilientwaters.ca/floodresilience>

Practices:

Operationalizing values within a project or collaboration can be effectively achieved through practices. Embedding values into everyday activities ensures they are reflected in every aspect of the project or collaboration. However, adopting and implementing a values-based approach requires practitioners to have the knowledge, skills, and motivation. Essentially, this entails behavioral change and a cultural shift.

In projects and collaboratives, we often overlook the cost of behavioral change, yet changing practices may necessitate capacity building or incentives to encourage the use of values-based approaches. Fostering a culture that supports a values-based approach requires factoring in behavioral change.

Jared Spool (2024) provides a useful framework for creating a user-centered cultural shift. In the context of coastal adaptation, this might entail:

1. Creating a culture that incentivizes teams to implement values-based adaptation.
2. Utilizing three levers of culture change: tolerating, encouraging, and rewarding shifts towards values-based adaptation.
3. Measuring project completion metrics to assess values-based adaptation outcomes.

By integrating these elements, projects and collaboratives can ensure that organizational practices align with a values-based approach.

Design Stage:

During the design phase of the policy/service/project/intervention, values should be explicitly considered to shape the overall approach and objectives of the project/collaboration. Design Thinking specifically, human centered design is gaining considerable traction in development circles as it complements traditional approaches and provides a deeper understanding of social challenges and innovative ideas for tackling them. Sometimes significant social issues can be resolved quickly by a simple design change. So, design thinking is particularly valuable in resource-constrained countries where other applicable solutions may not be available or affordable and is critical to developing sustainable solutions to particular challenges. It offers the ability to think about problems and utilize existing resources to ensure impactful outcomes. Design thinking can lead to ideas and practical solutions that deliver better results for the organizations and outcomes for the people we serve.

Implementation Stage:

In the implementation phase of the policy/service/project/intervention, values are put into action. This involves ensuring that the project/collaboration team consistently applies the established principles in practices. Effective implementation relies on implementers having the mandate, knowledge, skills, and motivation. Each of these four elements is equally important; lacking any one of them can hinder successful delivery. While significant investments are often made in capacity building to enhance knowledge and skills, this alone is insufficient if implementers lack motivation.

Development practitioners frequently emphasize project/intervention design but often neglect crucial aspects of implementation. Even capacity-building initiatives typically focus on training implementers to acquire specific knowledge and skills related to their roles, as well as improving organizational capabilities like leadership, management, and administrative and financial systems. However, less investment is made in developing relational skills, such as building trust and managing power dynamics, which are essential for successful execution and implementation.

Additionally, building beneficial external relationships is vital for thriving in a complex environment. These include resource mobilization, communication, networks, and alliances. Relationships and connections are critical for the successful execution and implementation of any project, yet they are often overlooked. Strong relationships can significantly impact the success of a project, as partners' interactions with other organizations and government agencies can either facilitate or hinder their impact.

Effectively implementing a values-based approach requires more than just promoting the value and benefits of such approaches; it necessitates a cultural shift and behavioral change. Therefore, investments and funding for projects must include the costs associated with facilitating this behavioral change.

Lastly, real time process monitoring and feedback mechanisms can help to maintain alignment with values throughout the implementation.

Evaluation Stage:

The evaluation phase of the policy/service/project/intervention provides an opportunity to assess how well the project/collaboration has adhered to its values. This can include evaluating outcomes not just based on quantitative metrics, but also on how well the project/collaboration has embodied its core values.

Palmer & Burton (2019) advocate for the use of the Causal Layered Analysis (CLA) framework, a values-driven evaluation method. CLA delves into multiple layers of understanding, from surface-level outcomes to deeper societal and cultural contexts, providing a comprehensive evaluation of the project's value. CLA focuses on understanding the historical context, current concerns, and future aspirations of the communities involved. By doing so, it seeks to uncover the deeper meanings and purposes of the project, ensuring that the evaluation captures the full spectrum of its impact.

Palmer and Burton (2019), through Causal Layered Analysis (CLA), recommend using proxy indicators - subjective and self-reported measures—to assess complex conditions that lack direct measurement methods. They suggest moving beyond the straightforward outputs and outcomes often found in traditional project and business plans, which use logical frameworks (log frames) for quick, measurable results. While log frames are suitable for tracking outputs like tourist numbers, small business income, new jobs, or anecdotal interest in a project, they are inadequate for measuring transformative social and behavioral changes. These changes are difficult to quantify or capture through standard metrics, as they involve nuanced, relational dynamics requiring detailed attention to community values.

Furthermore, Palmer and Burton (2019) stress the importance of focusing on the process itself and the indicators that reflect its quality. Transformative changes within projects arise organically from the quality of interactions and interfaces among diverse community actors who drive niche outcomes. Therefore, initiatives designed to catalyze broader systemic and behavioral changes should intentionally foster relationships that can produce sustained and scalable impacts.

Products:

Finally, products refer to any informational, communication, or educational (ICE) materials developed or utilized by the project. These materials can encompass a wide range of tools and resources designed to help individuals achieve specific tasks and goals. They may include educational or training materials produced by the project or its collaborators, as well as various types of informational or policy briefs and reports. These products serve not only as practical guides but also as means to convey and operationalize the project's core values. By embedding these values within the materials, the project ensures that its core principles are consistently conveyed and operationalized. This dual function of the products— providing practical guidance and embodying the project's values—makes them a pivotal element in achieving the project's objectives.







To translate values into actionable behaviors, effective communication and engagement strategies are vital. The articles reviewed emphasize that values lead to behavior change, which in turn requires well-informed communication and engagement strategies. Understanding human behavioral influences and levers of behavioral change are critical components of this approach. Recognizing the motivations and barriers to change is crucial for solving adaptation challenges and designing solutions around these factors.

Practitioners need a foundational understanding of behavior change principles to integrate values into their work. Understanding the basics of behavior change and how to apply them is essential for anyone involved in designing and delivering products, services, interventions, or policies that align with these principles. By understanding and applying these principles, practitioners can better engage with communities, influence behaviors, and achieve successful adaptation outcomes.

Overall, the articles reviewed build a case for the importance of values. In section 2, we explore how we can activate these values through strategic communication.

6. Implication of Values-Driven Approach to Adaptation

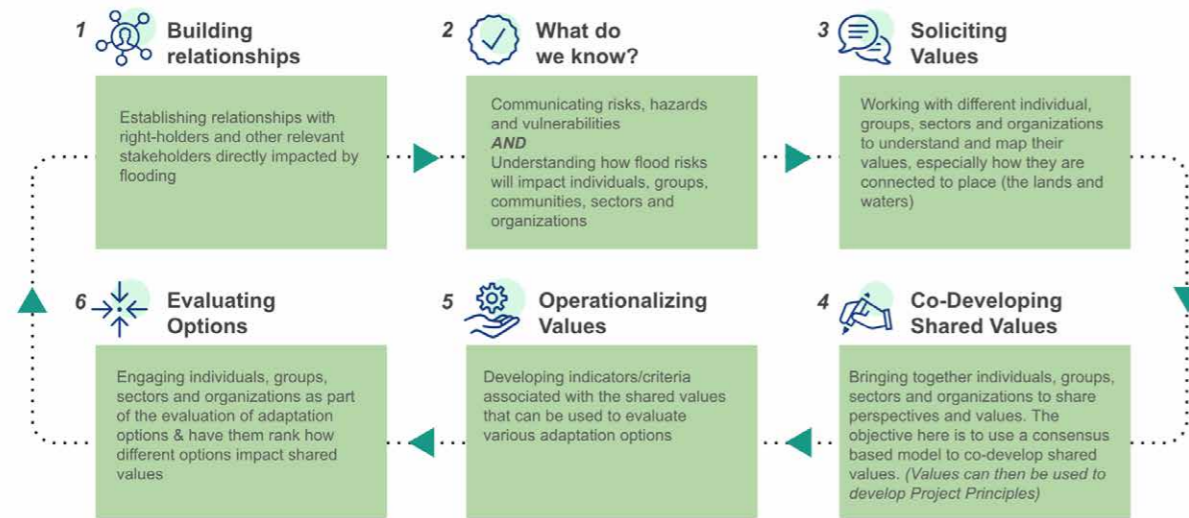
Integrating values into climate change approaches recognizes that adaptation is not solely a technical challenge but also a social process, requiring a nuanced understanding of the human dimensions of climate change. Such an approach can help foster solutions that are not only effective but also equitable and culturally appropriate. **Below are the implications drawn from the different articles:**

	Enhanced Understanding of Risks	Foregrounding values can enhance our understanding of what communities perceive as risks, which can differ significantly across cultures and socioeconomic backgrounds.
	Community Engagement and Empowerment	A values-based approach encourages active community engagement and empowerment, ensuring that Indigenous communities have a voice in developing adaptation measures that affect their lives and livelihoods.
	Tailored Adaptation Strategies	Recognizing local values can lead to the development of tailored adaptation strategies that resonate with the specific priorities, beliefs, and practices of different communities, making them more acceptable and effective.
	Improved Resilience	By drawing upon community values to develop adaptation strategies, there is potential for improved resilience, as people are more likely to maintain and support initiatives that they value and that reflect their way of life.
	Sustainable and Equitable Outcomes	A focus on values can promote more sustainable and equitable outcomes by addressing the underlying socio-cultural factors that contribute to vulnerability and by ensuring that adaptation efforts are distributed fairly.
	Global and Local Relevance	Understanding values can bridge the gap between global climate change policies and local implementation, ensuring that global initiatives are more relevant and applicable at the local level. Additionally, it can facilitate the expansion and adaptation of successful local initiatives or practices to a global scale.

7. Challenges or Limitations associated with Integrating Local Values in Adaptation Planning and Practices

Complexity of Values	Values can be deeply ingrained, complex, and sometimes intangible, making them difficult to identify, measure, and integrate into research and policy frameworks.
Diverse Value Systems	Within any given community, there can be a wide array of value systems. Balancing these diverse views and priorities to reach a consensus on adaptation strategies can be challenging. This is where Transcendence values and Opportunity Values prove invaluable.
Cultural Sensitivity	Researchers must approach local values with cultural sensitivity and awareness to avoid misunderstandings or misrepresentations that could jeopardize the trust and collaboration necessary for successful adaptation.
Dynamic and Changing Values	Values are not static; they evolve and can be influenced by external factors. This dynamism requires continuous engagement and adaptation of strategies to remain effective and relevant.
Resource Intensive	The process of engaging with communities, understanding their values, and integrating these into research is time-consuming and resource-intensive. It may require considerable investment in terms of funding and human resources.
Conflicting Interests	Local values may sometimes conflict with broader climate change adaptation goals or with the values and interests of policymakers, resulting in tensions that need to be carefully managed.
Ethical Concerns	There may be ethical concerns related to whose values are prioritized, how they are interpreted, and how they influence decisions, which could lead to inequitable outcomes if not addressed.
Scaling Up	Translating local, value-driven adaptation measures to larger scales or different contexts can be difficult because what works for one community may not be suitable elsewhere.
Policy Integration	It can be challenging to translate complex and diverse local values into the often more rigid frameworks used in policy-making and international agreements.
Quantification Challenges	Where quantitative assessments are required, it can be difficult to convert qualitative information about values into quantitative data that can be integrated into models and analysis. Also, self-report indicators/proxy indicators make it more difficult to aggregate and compare such indicators across similar projects in different contexts.

A Process for Integrating Values



Source: Living With Water (LWW)





SECTION 2

1. Evidence-Based Practices for Effective Values-Based Approaches in Coastal Adaptation Communications

Coastal adaptation and effective communication must be closely integrated to be successful. Even values-informed coastal adaptation initiatives are unlikely to gain traction and stakeholder buy-in without effective communication to build public trust, understanding, and action. Effective climate communication is crucial to ensure that scientific knowledge is accessible, engaging, and impactful. This requires a deep understanding of the science behind the communication process itself, meticulous planning, and the use of evidence-based strategies to create impactful communication interventions.

The foundation of effective communication lies in leveraging existing theories of social and behavioral change and incorporating robust research at every stage of the planning process. The goal is to balance scientific principles with the creative aspects of communication, ensuring that the message is both engaging and informative. In this report, we highlight key evidence-based practices for effective adaptation communication: understanding your audience, simplifying and clarifying your message, storytelling, and framing your message.

Why is Effective Climate Communication Important?

The Paris Agreement, signed by 196 member states in 2015, highlights the crucial need for effective climate communication to achieve ambitious climate goals and limit the global temperature rise by 2030. ([Key Aspects of the Paris Agreement | UNFCCC, 2015](#)). While some progress has been made, significant efforts are still needed.

Effective climate communication can:

- Alter social behaviors
- Shift attitudes
- Change beliefs

By harnessing the power of effective communication, we can foster a deeper understanding of climate change's urgency and drive meaningful action.

According to Dupar et al., ([2019](#)), people generally do not need to be convinced that climate change is happening. They witness its effects firsthand in heatwaves, heat-related illnesses, and deaths, failing and flooded crops, and inundated coastal zones. What people need is to 'make sense' of what they are seeing: to understand their lived experience in a scientific context, to know what the future climate might hold, and to decide what appropriate actions to take. Effective communication can help bridge the gap between the big picture and local experiences, connecting scientific and local knowledge ([Dupar et al., 2019](#)).

This literature review focuses specifically on adaptation. Although we did not find any resources exclusively dedicated to the science communication of values-based approaches in coastal adaptation, we have drawn insights from various resources on science communication that practitioners can leverage to develop tailored approaches. The recommendations presented are therefore a synthesis of existing knowledge on communicating climate change rather than original research. We have utilized grey literature to consolidate an approach for communicating a values-based perspective in coastal adaptation, aiming to enhance public understanding and inspire action. This section of the review provides a roadmap for translating research into practice, connecting a broad body of research to practical recommendations.

1. Know Your Audience's Values

Climate communication is particularly challenging due to the complexity of the issue, pervasive misinformation, and the heightened emotions it elicits ([Corner, 2018](#)). Effective communication thus requires leading with shared values and principles that resonate broadly with your audience. Values are organizing principles that help people understand why an issue matters and inform decision-making. Knowing your audience's values is crucial for creating relevant and impactful key messages. Values and emotions significantly influence how an audience responds to communications, acting as either barriers or motivators.

Understanding Audience Values:

- Integrate psychographic factors—values, goals, interests, needs, worries, and lifestyle choices—to understand people's attitudes and behaviors related to a specific issue. This can include identifying whether they are in denial, strongly resisting, willing but facing difficulties, or willing but not yet achieving their goals ([Barnett & Mahony, 2011](#)).
- Explore social, cultural, economic, political, and geographical factors that influence your target audience's behavior.
- Conduct [situation analysis](#) and [audience analysis](#), opinion polls, or user research to learn about these values.
- Segment your audience based on values to make communications more targeted and effective ([Commetric, 2020](#)).

Utilize the 'Know, Feel, Do' Framework:

- The 'Know, Feel, Do' framework helps assess your audience's current position, desired outcome, and the necessary steps to bridge the gap. Evaluate where your audience currently stands, identify where you want your audience to be in terms of knowledge, feelings, and actions, and the extent of change required ([Sood et al., 2019](#)).
- Determine the necessary steps to bridge the gap or to achieve this shift based on audience segmentation and values.

Values to Segment Your Audience:

- Values and political beliefs significantly influence how individuals react to climate change messages, often more than their scientific knowledge. People filter information through their values, leading to negative responses to factual evidence if it contradicts their values ([Corner, 2018](#)). Understanding the values of different audience segments is key to designing messages that resonate with them. For example, some groups might prioritize economic stability and favor strategies that protect businesses and jobs, while others might value environmental preservation and support strategies that protect natural ecosystems.

Questions to Consider for Audience Segmentation:

- Do you want to communicate with all of them or just a specific subset?
- Can any of your audience groups be divided into segments unique to your context?
- Will they be generally skeptical or receptive to your message?
- Can you communicate with all stakeholders in the same way? How might their contexts and values differ?
- What challenges might arise when communicating with these stakeholders?

2. Choose an Appropriate Frame for Your Message

Framing your coastal adaptation messages means contextualizing them around an issue, concept, or situation that will resonate with your audience. The same information can be conveyed differently using different frames, depending on your audience's values ([NNOCCI et al., 2016](#)).

Common Frames for Climate Communications:

- Protection: Protecting people and places from environmental harm.
- Responsible Management: Practical steps to address current environmental problems in the best interest of future generations.
- Employment: Impact on the job market, creation of new jobs, or threats to existing ones.
- Security: Threats to food security, energy, or national security due to climate change-induced migration.
- Recreational/Spiritual Value: Intrinsic value of the environment from a spiritual or recreational viewpoint.

3. Explain Causes Before Highlighting Effects

Focus on explaining the processes that lead to climate-related problems before highlighting the effects. When people understand the processes, they are better prepared to reason effectively about appropriate solutions ([Frameworks Institute, 2023](#)). This explanatory approach is less likely to drive people towards pre-existing ideological stances on climate change and more likely to enable them to be receptive to new information.

4. Be Solutions-Focused

Emphasize solutions rather than merely highlighting issues and challenges ([FrameWorks Institute, 2020](#)). This approach can help alleviate climate anxiety and motivate your audience to take action. Clearly outline what actions can be taken and their benefits.

5. Make It Relevant and Salient

Many people feel psychologically distant from climate change because its most visible impacts, like melting glaciers, bleached coral reefs, and polar bear migrations, seem remote and disconnected from their daily lives. To make your communications more relatable, anchor them in your audience's values and context.

Tips for Making Messages Relevant:

- Reference knowledge or values that your audience can relate to. For example, in a community with significant agricultural activities, discuss how changing weather patterns impact crop growth.
- Use behavioral insights like MINDSPACE to design and deliver communication interventions considering Messenger, Incentives, Norms, Defaults, Salience, Priming, Affect, Commitments, and Ego.
- Consider the 5Ws and 1H (Who, What, When, Where, Why, and How) to tell a complete story ([5Ws and 1H Framework, 2024](#)).
- Layer your message—structure your message to highlight essential information upfront so your audience can quickly identify key takeaways and main points, and stay engaged for more details. The sequence is crucial: start with a value, then identify the problem, and finally, explain the solution.
- Choose the right messenger to enhance the message's impact and credibility. The messenger is as important, if not more so, than the message itself.
- Include marginalized or under-represented groups as messengers and explore how you can amplify their voices. Consulting with these groups when crafting your messages ensures their views are included.

6. Create a Narrative

Engage your audience with storytelling. A strong narrative captures your attention and makes your message memorable.

Tips for Building a Compelling Narrative:

- Tell human-centered stories rather than just presenting data and statistics ([Corner et al., 2018, pp. 8–10](#)).
- Use the 'ABT' (And, But, Therefore) framework to structure your message ([Corner et al., 2018, pp. 14–16](#)):
 - "And": Provide context.
 - "But": Introduce the conflict or issue.
 - "Therefore": Offer a resolution.
- Involve your audience in the process through feedback, co-production, and user interviews.

7. Use Reliable Sources

Mistrust is a significant challenge in climate communications, as misinformation and disinformation about climate change are common. To build trust with your audience, it's essential to use objective, reliable sources with a scientific basis. Ensure your sources are peer-reviewed and make it clear to your audience where you've sourced your facts.

Tips for Effective Science Communication ([Frameworks Institute, 2023](#)):

- Avoid framing with scientific authority.
- Explain rather than persuade.
- Provide examples of science solving real-world problems.
- Help people understand facts and figures by placing them in context.

8. Make the Key Message Development Process Iterative

Your initial messages will likely need refinement. An iterative approach—testing messages, gathering feedback, and refining—strengthens your communications.

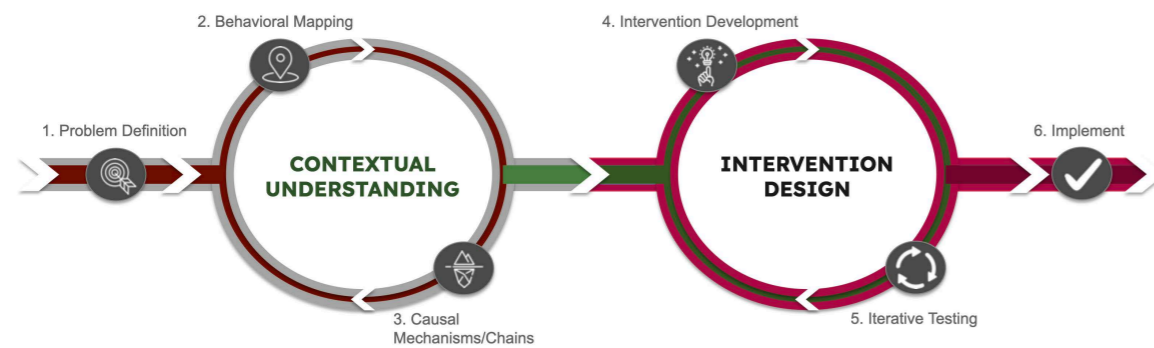
Testing and Pretesting:

- Collaborate with your target audience to understand their perceptions and motivations.
- Determine the best platforms and channels for communication.
- Gather storylines or ideas that resonate with your audience's reality.
- Pretest to estimate the effects of your interventions.

Who is Your Target Audience?

General Public	<ul style="list-style-type: none"> • Highlight the human element – How will adaptation strategies protect coastal communities, livelihoods, and cultural heritage? • Use visuals (e.g., maps showing areas at risk, stories of impacted communities). • Emphasize shared values like protection, responsible management, and preserving a way of life.
Policymakers/ Decision-Makers	<ul style="list-style-type: none"> • Focus on cost-effectiveness and long-term sustainability of values-based approaches. • Translate community values into metrics policymakers understand (e.g., economic impact, social well-being). • Showcase successful case studies of implemented values-based adaptation plans.
Scientists & Coastal Managers	<ul style="list-style-type: none"> • Explain the limitations of traditional, purely technical approaches. • Support systems, processes and tools need to be in place to support behavior change towards values-based adaptation.
Internal stakeholders	<ul style="list-style-type: none"> • Create a culture that incentivizes teams to implement values-based adaptation. • Utilize 3 levers of culture change: tolerating, encouraging, and rewarding shifts towards values-based adaptation. • Project completion metrics should measure values-based adaptation outcomes.

2. Implementing and Communicating Values-Based Approaches in Coastal Adaptation



Adapted from Busara Center for Behavioral Economics

1. Conduct Formative Research

Context & Audience Analysis:

It starts with thorough formative research to understand the unique social, economic, and environmental contexts of each coastal community. This will help identify the values and priorities that shape their response to coastal changes and challenges. Use tools like situation analysis, audience analysis, opinion polls, or user research to learn about your audience's values. Understand their current position, where you want them to be after your communication, and the steps needed to get there using the 'Know, Feel, Do' framework.

2. Utilize the 'Know, Feel, Do' Framework

Understanding your Audience:

- Know: Identify what your audience currently knows about coastal adaptation.
- Feel: Determine how they feel about the topic and the emotions you want to evoke.
- Do: Define the actions you want them to take after receiving your message.

3. Context Analysis

Identify Challenges:

A context analysis helps identify and frame the primary challenges the community faces in coastal adaptation. Recognize that problems are often complex and can be easily misdiagnosed or poorly framed, leading to misunderstandings or tensions. To improve outcomes, focus on the contextual factors surrounding individuals— that make it easy or hard for people to act on coastal adaptation.

4. Map the Barriers and Motivators

Understand Behavioral Influences and Heuristics:

Identify the social, cultural, economic, political, and geographical factors that either hinder or facilitate desired behaviors. Understand how individual and societal values impact adaptation efforts. The goals for adaptation vary due to different attitudes towards risk (risk-takers vs. risk-averse), dispositions (progressive vs. conservative), and views on the adaptive capacity of future generations (optimistic vs. pessimistic). Recognize that these behavioral influences and heuristics create subjective boundaries that can limit or facilitate effective adaptation.

5. Leverage Social and Behavior Change Theories

To Plan, Implement, and Evaluate:

Use social and behavior change theories to design, implement, and evaluate coastal adaptation strategies. Social and behavior change theories provide frameworks to understand why a problem exists, what is likely to lead to change, who can trigger the change, and what information is needed to design the intervention. Understand how behavioral influences at both social and individual levels, such as risk perception, societal norms, preferences, and cultural values, shape adaptation decisions. This foundational knowledge is critical for engaging communities and promoting desired actions.

6. Develop a Theory of Change

Strategic Planning:

Create a Theory of Change to illustrate how a values-based approach facilitates effective and sustainable outcomes. This theory links to your communication goals, outlining what you want the audience to think, feel, or do immediately after hearing your message, and what you want them to remember later. It is a tool that explains how and why change will happen and how you intend to measure and demonstrate the impact.

7. Clarify Communication Goals and Objectives

Set Clear Objectives:

Define clear communication goals flood risk communications, for example, can be divided into three broad contexts: preparation, prevention, and warning. Communication goals and objectives may include ([Environment Agency, 2015](#)):

- Raising awareness.
- Encouraging protective behavior.
- Informing to build knowledge on hazards and risks.
- Promoting acceptance of risks and management measures.
- Warning and triggering action in impending events.
- Reassuring the audience to reduce anxiety or manage resistance
- Improving relationships and building trust.
- Enabling mutual dialogue and understanding.
- Involving actors in decision-making.

8. Audience Segmentation

Use Values for Segmentation:

Segment your audience based on their values, which drive their responses to climate communications. Understand the specific values, risk perspectives, interests, and concerns of different audience segments to tailor your messages effectively.

9. Clarify Communication Approaches

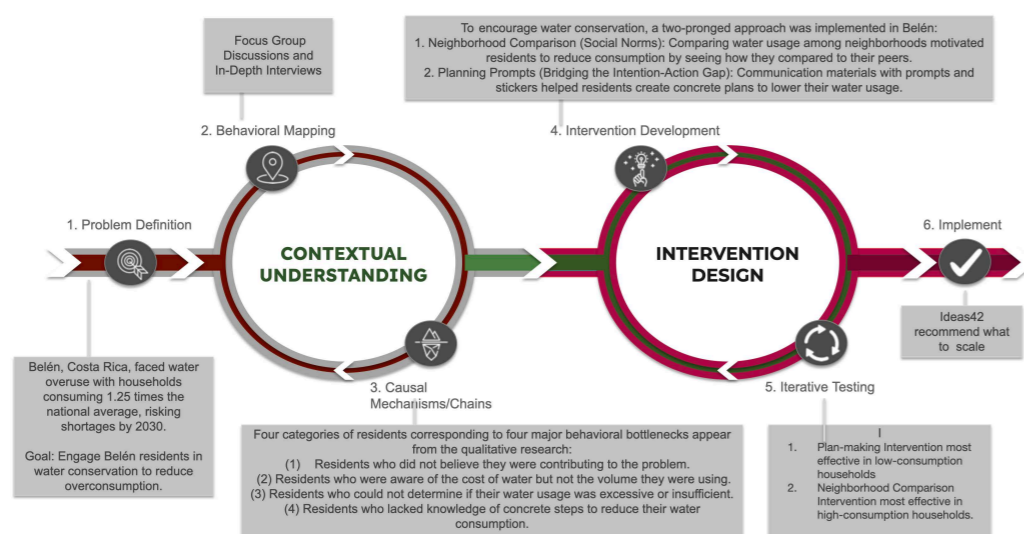
Choose the most suitable communication approach for your target audience and goal:

- **Advocacy:** Focuses on the policy environment and developing or changing laws and administrative practices.
- **Social Mobilization:** Aims to unite partners at national and community levels for collective impact.
- **Social Change Communication:** Enables groups to engage in a participatory process to define their needs and collaborate to transform their social system.
- **Behavior Change Communication:** Focuses on individual knowledge, attitudes, motivations, self-efficacy, skills building, and behavior change.

10. Make the Message Development Process Iterative

Refine and Test Messages:

Adopt an iterative approach by testing key messages, gathering feedback, and refining them. Collaborate closely with target audience members to understand their perceptions, motivations, and barriers. Determine the best communication platforms and channels through pre-testing to ensure your messages resonate with the audience. Pretesting also estimates intervention effects.



Source: Ideas42

Tools to Learn More About Audience Segmentation & Eliciting Values

There are various tools to help you learn more about your audience and how to segment them for a more informed communication approach. These tools include:

Step-by-Step Guide on Audience Segmentation: This [tool provides a comprehensive guide on how to develop your audience segmentation](#) including how to conduct [situational analysis](#) and [audience analysis](#).

Focus Groups: [Focus Groups](#) are excellent for gaining deeper insights into a specific group or set of profiles. Here is a [guide on how to design and conduct a focus group](#), along with [insights from two decades of application in conservation](#), specifically eliciting stakeholders' values.

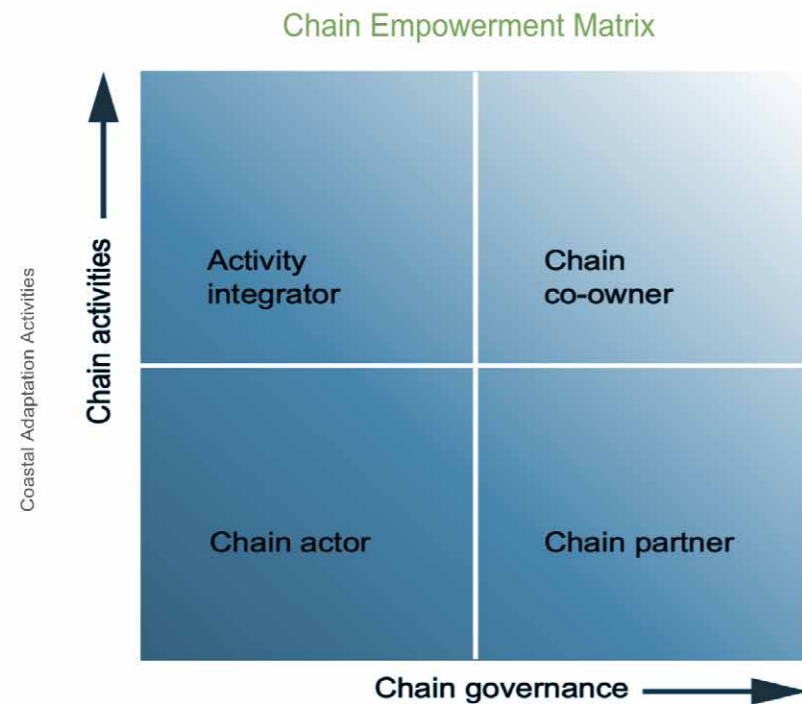
Spectrum of Allies: [The Spectrum of Allies](#) tool is intended for small groups and helps visualize the positions and values of different actors on a particular issue, ranging from opposition to alliance. Different strategies will be required to engage with stakeholders at various points along the spectrum.

User Interviews: [User interviews](#) are a highly flexible and adaptable method for uncovering values, needs, and opinions during the discovery phase. The decision to use a focus group or an interview depends on the depth of information you seek. This tool is a comprehensive [guide on conducting user interviews](#).

Segmenting your audience for internal communications: Internal audiences can be segmented in various ways. The approach you choose will depend on your goals, communication objectives, and target audience. This [tool provides guidance on how to segment internal audiences](#) effectively.

[Participedia](#) is a platform that details (369) methods and provides valuable insights into the practical application of various community engagement methods and processes, focusing on their purposes, strengths, weaknesses, contexts, organization, and feasibility. Participedia categorizes information based on several critical criteria such as the type of method, typical purpose, spectrum of public participation, types of interaction among participants, level of polarization, types of tools and techniques, and decision methods. Some case studies from Participedia that demonstrate how different approaches can capture community values, foster meaningful participation, and lead to more effective and inclusive decision-making processes can be accessed [here](#).

3. Values-Based Adaptation Governance Measurement Framework



Source: (adapted from KIT et al. 2006)

The Chain Empowerment Matrix above, originally designed for agricultural value chains ([Royal Tropical Institute \(KIT\) et al., 2012](#)), can be adapted to conceptualize governance and as a metrics to measure outcomes in values-based coastal adaptation. This framework focuses on ensuring the effective participation of communities in key decision-making processes. In this context, empowerment is about the communities' ability to both participate and own and create value in coastal adaptation strategies. There are four quadrants, and below is an elaboration:

Upgrading as a Chain Actor

Communities enhance their roles in coastal adaptation by improving their existing activities. For example, community members become specialists in coastal resilience practices with a clear focus on sustainability and local needs. This might include better planning for coastal defenses, adopting innovative techniques for erosion control, or improving disaster preparedness and response.

Upgrading by Adding Value through Vertical Integration

Communities engage in activities further up the adaptation chain. For example, they participate in joint planning and implementation of coastal projects to add value. This could involve communities taking

on roles in monitoring environmental changes, contributing to research initiatives, or collaborating on the development and deployment of new technologies. This implies moving vertically up in the matrix, into the "activity integrator" quadrant.

Upgrading by Developing Chain Partnerships

Communities build long-term alliances with stakeholders, centered on shared interests and mutual growth. For example, they form partnerships with governmental and non-governmental organizations, academic institutions, and private sector players to co-develop and implement adaptation strategies. This collaboration can help ensure that community voices are heard and considered in policy-making processes. This means moving horizontally into the "chain partner" quadrant.

Upgrading by Developing Ownership over the Chain

Communities gain ownership over adaptation initiatives. For example, they establish direct linkages with funding bodies or become co-owners of adaptation enterprises. This could involve communities setting up local adaptation funds, owning and managing coastal infrastructure projects, or becoming shareholders in companies that provide coastal protection services. This implies transitioning into the "chain co-owner" quadrant.

The Chain Empowerment Matrix, when adapted for values-based coastal adaptation governance, offers a structured approach to enhancing community participation and ownership. More importantly, it can empower rightsholders and stakeholders to overcome contextual constraints, which are often the most significant barriers to behavioral change, by enabling them to create and share in the value generated through these adaptation efforts.

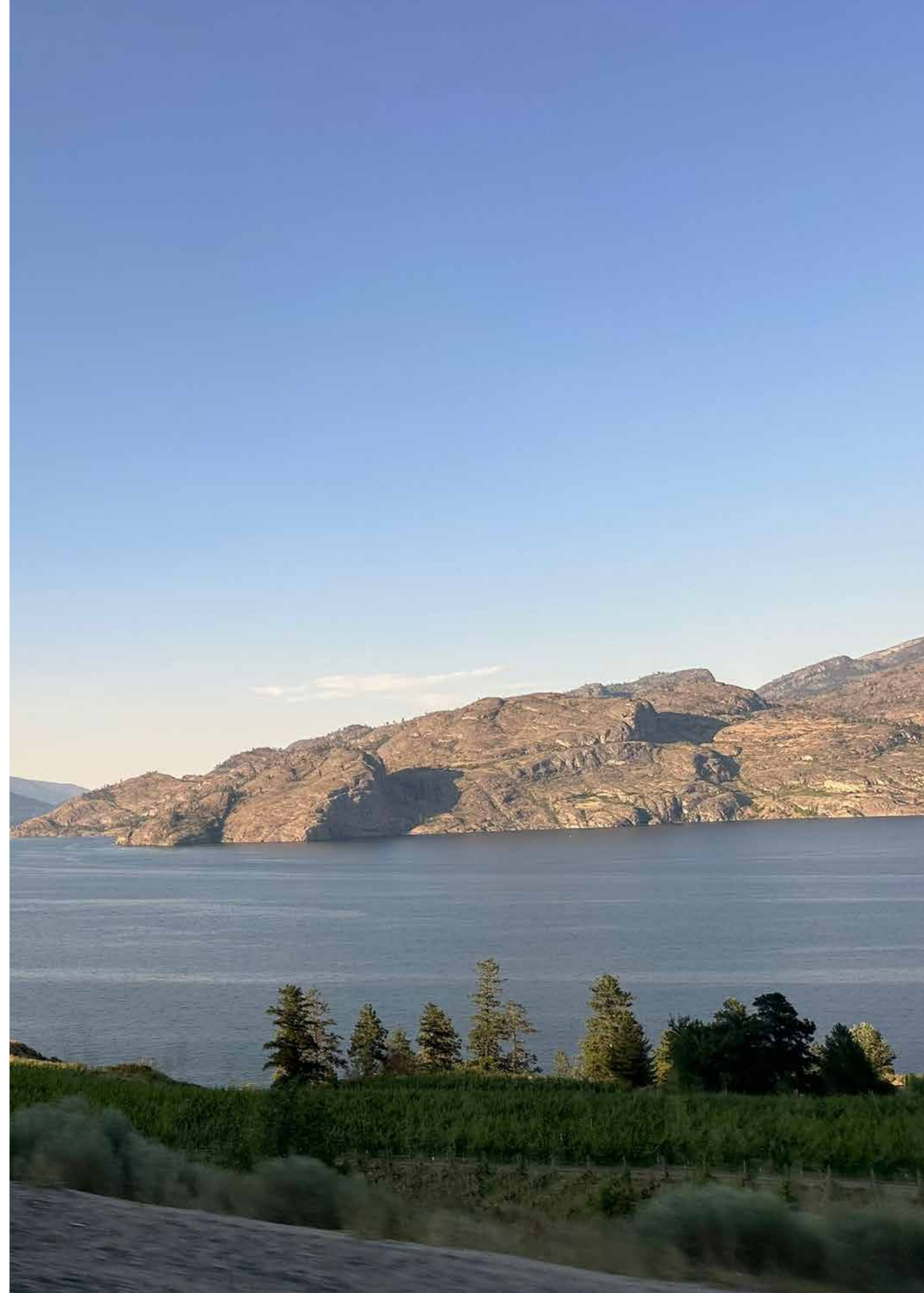
4. Conclusion

This literature review was conducted to encourage a more intentional approach to integrating values-based strategies in coastal adaptation. Driven by a desire to innovate—defined as putting knowledge to use, whether new, accumulated, or applied creatively—this work aims to translate existing research into practical recommendations. In this context, innovation involves identifying effective ideas or solutions from various sources and adapting them to new contexts.

Rather than offering original research, this review synthesizes existing knowledge on values-based approaches to climate change adaptation and science communication. By linking a broad range of research to practical recommendations, our goal is to make this knowledge both accessible and actionable.

We have drawn upon a diverse array of sources, including academic research, policy documents, and grey literature available in the public domain. Every effort has been made to accurately cite these sources, acknowledging the invaluable contributions of the authors and institutions that have informed this work.

The ideas and examples presented are intended to be thought-provoking rather than exhaustive or definitive. The aim was to highlight useful concepts, proven strategies, and techniques that practitioners can incorporate into their work or use as a starting point for further exploration. We hope you find this report insightful and useful. Thank you for reading.



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