



REVIEW ARTICLE

Section: Literature, Linguistics & Criticism

Environmental risk and collective agency in English climate fiction: A Strategic foresight framework for Saudi sustainabilitySalman Fahad Alqahtani^{1*} & Neelofar Hussain Wani²¹Department of Psychology, College of Education, Prince Sattam bin Abdulaziz University, Kingdom of Saudi Arabia²Department of English, College of Languages and Translation, King Khalid University Abha, Kingdom of Saudi Arabia*Correspondence: sf.alqahtani@psau.edu.sa**ABSTRACT**

Environmental futures are shaped by decisions about whose vulnerability matters and who possesses the means to respond. This article argues that English climate fiction contributes to strategic foresight by exposing the unequal distribution of collective agency, rather than by predicting environmental events. Combining ecocriticism with narratological analysis, it examines selected passages from Octavia E. Butler's *Parable of the Sower*, Paolo Bacigalupi's *The Water Knife*, and Kim Stanley Robinson's *The Ministry for the Future*, alongside relevant literary criticism. The comparison distinguishes protective belonging, exclusionary coordination, and institutional representation of distant futures. Its central finding is interpretive: collective action is not inherently sustainable, because coordinated groups can secure their own survival by transferring environmental costs to others. Building on this distinction, the article proposes a framework for Saudi sustainability that connects critical reading, local contextualization, alternative scenario construction, distributive evaluation, and institutional revision. The environmental scope encompasses water, energy, cities, consumption, climate action, and terrestrial ecosystems, aligned with Sustainable Development Goals 6, 7, 11, 12, 13, and 15. The framework is offered for future application in universities and participatory foresight settings; no Saudi reader responses or policy effects are claimed. The contribution lies in treating literary form as a resource for questioning environmental futures while retaining the differences between fictional possibility, scientific evidence, and public decision making.

KEYWORDS: climate fiction, ecocriticism, econarratology, collective agency, strategic foresight, Saudi Arabia, Sustainable Development Goals

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1. Introduction

A sustainability plan can describe a future in which water is conserved, energy systems improve, and cities become more resilient. Yet its description may leave unanswered a more difficult question: who will be able to inhabit that future safely? A projected improvement in aggregate efficiency does not, by itself, explain how protection will be distributed. Neither does an appeal to collective responsibility identify the people who can change infrastructure, the people who depend on it, or those whose contributions remain unrecognized. These are questions of institutions and resources, but they are also questions of narrative. Every account of an environmental future selects protagonists, establishes causal relationships, and decides which consequences deserve attention.

Climate fiction makes those selections available for scrutiny. Its environmental significance extends beyond depictions of drought, extreme weather, or damaged landscapes. As Trexler and Johns-Putra (2011) argue, climate change can reorganize characterization and narrative trajectories rather than merely supply a setting. A novel may place readers beside someone who recognizes danger but cannot command a response. It may follow an organization that responds effectively while producing harm elsewhere. It may imagine a collective subject whose members have not yet been born. Such formal choices challenge the assumption that greater awareness naturally leads to shared, beneficial action.

This article advances a specific argument: the contribution of climate fiction to strategic foresight lies in making the distribution and limits of agency discussable. Environmental risk and collective agency are therefore connected through questions of power, access, representation, and time. They are not treated as independent and dependent variables in an unperformed statistical model. Risk concerns possible environmental harm and the circumstances that make particular lives vulnerable; collective agency concerns the capacity to coordinate action through shared purposes, material arrangements, and institutions. The relationship is reciprocal. Collective arrangements influence vulnerability, while anticipated vulnerability can reshape the boundaries and purposes of a group.

The proposed Saudi application develops this argument within an environmental sustainability agenda. Earlier scholarship examining Vision 2030 demonstrated the value of evaluating development ambitions against explicit sustainability criteria rather than treating development and sustainability as interchangeable (Alshuwaikhat & Mohammed, 2017). Literary study adds a different evaluative question: what forms of social life do environmental ambitions imagine, and which forms do they overlook? It cannot assess national performance from fictional evidence. It can, however, provide a disciplined method for identifying assumptions before those assumptions become embedded in scenarios or public communication.

The literary corpus comprises three novels originally written in English: Butler's *Parable of the Sower*, first published in 1993; Bacigalupi's *The Water Knife*, published in 2015; and Robinson's *The Ministry for the Future*, published in 2020. Here, "English climate fiction" denotes English-language writing, not exclusively British literature. All three authors are American, a restriction that shapes the argument's reach. Saudi Arabia is the intended setting of the proposed foresight process, not the geographical setting of these novels. Their differences from Saudi circumstances are part of the method, rather than an inconvenience to be removed.

Three questions organize the inquiry. How do narrative perspective and temporal organization make environmental risk intelligible? When does coordinated action protect a wider community, and when does it secure a restricted group by displacing harm? How can these literary questions inform Saudi sustainability foresight without turning novels into forecasts or assuming that American fictional institutions have Saudi equivalents? The article first establishes its conceptual and methodological position, then develops comparative readings and a framework for contextual application. Its contribution is a critical connection between literary form and the evaluation of possible environmental futures.

2. Ecocriticism, narrative form, and collective agency

2.1. Environmental risk as a problem of representation

Ecocriticism supplies the environmental orientation of the argument; narratology specifies how texts organize that orientation. Johns-Putra's (2016) review demonstrates that climate change has generated both new literary production and renewed questions for literary criticism. The significance of a climate narrative cannot be established simply by counting references to heat, water, or carbon. Interpretation must consider how a text

relates environmental processes to knowledge, responsibility, and experience. A drought narrated through a property owner's anticipated losses is not the same narrative object as a drought narrated through a person's inability to obtain drinking water.

Econarratology provides a useful meeting point between these concerns. Wang and Caracciolo's (2022) interview situates narrative form within debates about environmental crisis and the Anthropocene. For the present article, the relevant implication is methodological: perspective, duration, and narrative organization belong inside environmental analysis. Focalization, understood as the organization of access to perception and knowledge, helps distinguish the person who experiences danger from the institution that defines it. Temporal arrangement shows whether harm appears as a sudden interruption, an accumulated condition, or an obligation passed to the future. These distinctions are interpretive tools, not universal measures of textual value.

Nixon's (2011) account of slow violence explains why environmental damage can escape narratives organized around visible events. Injuries dispersed across long periods or distant places may struggle to become publicly recognizable emergencies. This creates a tension for climate fiction: dramatic catastrophe can make environmental danger memorable while obscuring the ordinary arrangements that made catastrophe unequal. The critical task is consequently double. It asks what a narrative renders visible and what its demand for dramatic concentration leaves outside the frame. In foresight, the equivalent concern is whether an arresting scenario draws attention away from routine maintenance, accumulated exposure, or continuing ecological loss. Scale creates another difficulty. Chakrabarty (2009) places climate change at the intersection of human histories and planetary processes, unsettling familiar separations between natural and political history. That intersection does not make every human equally responsible or equally powerful. This article therefore distinguishes common planetary dependence from interchangeable social positions. A narrative that speaks for humanity may reveal shared vulnerability, but its collective pronouns still require examination. Who can leave a dangerous place? Who performs the labor that allows others to remain? Who controls the infrastructure that converts environmental conditions into security or deprivation?

2.2. Collective agency beyond shared concern

Collective agency involves more than several individuals expressing similar environmental attitudes. Bandura (2000) identifies perceived collective efficacy as a shared belief in a group's capacity to produce desired effects. That belief matters, but it must be distinguished from effective access to resources and from the ethical quality of a group's aims. A confident, cohesive organization can pursue an environmentally damaging project. Conversely, people can recognize a shared problem and possess strong commitments while lacking decision rights or practical means. Literary analysis can preserve these differences by examining what characters intend, what arrangements permit, and what consequences actually follow within the storyworld.

Ostrom's (2010) discussion of polycentric responses to environmental change offers a complementary institutional perspective. Collective action can take place through multiple interacting centers rather than requiring a single comprehensive authority. This does not mean that any multiplication of organizations produces sustainability. The relevant analytical issue is how responsibilities, learning, and coordination operate across scales. A neighborhood may solve a local problem while depending on decisions elsewhere; an international institution may announce an obligation that remains unenforceable in everyday life. This article uses those possibilities to question the adequacy of both heroic individualism and an undifferentiated appeal to "society." Infrastructure connects agency to material conditions. Larkin (2013) describes infrastructure as simultaneously material, political, and meaningful: it enables circulation while carrying promises about collective life. Water pipes, cooling systems, transport routes, and waste arrangements therefore deserve attention as more than background objects. They organize what people can do together. Within the framework proposed here, access to infrastructure becomes a question about the distribution of practical agency. An invitation to conserve resources means something different for someone controlling a building's equipment and someone whose only available choice concerns a small portion of daily consumption.

The distinction between solidarity and exclusion follows from these three perspectives. Solidarity involves obligations that extend beyond immediate advantage; exclusionary coordination protects a bounded group while treating others' losses as acceptable. These are working distinctions for interpretation, not fixed categories into which every character must fit. A group can offer essential care internally and still exclude

outsiders. It can also revise its boundaries. The important question is whether a narrative makes that revision imaginable, and whether its account of collective survival recognizes the costs imposed beyond the community it asks readers to identify with.

2.3. From narrative possibility to strategic foresight

Foresight provides an organized way to examine alternatives under uncertainty. Amer et al. (2013) review diverse approaches to scenario planning, showing that scenario construction is a methodological field rather than unrestricted speculation. Inayatullah (2008) connects futures thinking with examining assumptions, developing alternatives, and moving toward transformation. The present framework draws on that orientation while assigning literature a specific role: it supplies difficult perspectives and relationships that a scenario process must subsequently investigate. A fictional event is a provocation to inquiry. Its presence in a compelling novel does not establish its probability.

Milkoreit (2017) treats collective imagination as political, shaped by power and by the processes through which particular futures become shareable. Bina et al. (2017) similarly examine fiction as a means of reflecting on societal challenges and possible alternatives. Together, these approaches justify asking how literary futures can unsettle the boundaries of planning. The further claim developed here is that such unsettling should remain traceable. Participants need to distinguish what originated in a literary passage, what emerged from their interpretation, and what is supported by evidence about a particular environmental system.

3. Corpus and interpretive method

The study is a conceptual literary article based on selective close reading and critical synthesis. It does not report a systematic review of all climate fiction, a completed Saudi workshop, or a whole-corpus coding exercise. Its directly examined primary units are publicly available authorized passages: the diary entry dated 21 July 2024 in Butler's novel, the opening chapter of Bacigalupi's novel, and Robinson's account of the creation of the ministry. Publisher information establishes editions and broader premises. Published criticism supports discussion of larger narrative patterns, with those interpretations attributed to the critics concerned.

Selection follows a contrastive logic. The passages locate agency at different scales and place environmental protection under different kinds of pressure. A personal diary raises questions about perception, belonging, and inherited authority; an infrastructure operation exposes coordinated action and unequal access; an institutional founding narrative tests representation across generations. The comparison does not establish that these forms exhaust the possibilities of climate fiction. It creates a manageable set of contrasting problems through which the relationship between risk and agency can be examined closely.

The reading procedure has four stages. First, it identifies the environmental problem and the narrative position from which that problem becomes knowable. Second, it examines who can act, what resources support action, and which persons or environments bear the consequences. Third, it considers how narrative timing allocates urgency: who must respond immediately, who can wait, and whose claims are postponed. Fourth, it formulates a question that could travel into foresight while recording the contextual differences that prevent direct policy transfer. Each stage keeps textual evidence separate from the article's proposed application.

Interpretive accountability also requires counterreadings. A protected community may sustain care as well as exclusion. A frightening narrative may expose injustice while narrowing the imagination of cooperation. An institution representing future life may enlarge ethical concern while concentrating authority among present representatives. Bruner's (1991) account of narrative as a mode of constructing reality supports attention to the organization of meaning, rather than treating a story as a transparent container of facts. Accordingly, disagreement about a passage is analytically useful when participants can identify the textual choices supporting their interpretations.

The analysis uses APA author–date references, with DOI metadata checked against Crossref and publisher records. A primary-source register identifies the novels, the authorized passages examined, and the United Nations goal pages used to define the environmental scope. Passage descriptions provide stable locations across editions. Evidence is distinguished by function: primary passages support close reading, criticism supports discussion of broader interpretations, and environmental sources inform contextual inquiry. The proposed framework is the article's synthesis, whose practical value remains open to subsequent investigation.

4. Comparative readings: who can act on environmental risk?

4.1. Butler: protective belonging and the limits of inherited futures

In the diary entry dated 21 July 2024, Lauren's journey to baptism brings defended belonging into contact with visible deprivation. The first-person account moves between family expectations, guarded spaces, and people unable to obtain basic care. The ceremony requires costly drinking water, while those outside protected communities lack water for washing. Resource scarcity is therefore narrated through competing claims upon the same substance. Lauren's question about using a bathtub receives little serious consideration. Adult nostalgia for the "good old days" becomes an obstacle to evaluating present arrangements (Butler, 1993/2017, entry for 21 July 2024).

The passage's force lies in the distance between participation and agreement. Lauren belongs to the group and undergoes its ritual, yet her inward commentary does not reproduce its judgment. Her observations also refuse the comfort of treating danger as something simply outside the wall. The diary form preserves an argument that cannot be fully expressed within the immediate collective. Anticipatory intelligence appears as a capacity to notice contradictions before an established authority acknowledges them. Belonging, on this reading, can support survival while limiting which questions are heard.

Müller and Schwarz (2024) offer a broader interpretation of Butler's *Parables* through homemaking, persistence, and adaptability. Their analysis treats home as a changing relationship across scales rather than a permanently secure enclosure. This helps resist an overly simple reading of protective space as necessarily illegitimate. People facing danger require shelter, continuity, and trusted relationships. The critical issue concerns how protection is organized and whether its boundaries can change. Read alongside their argument, the selected passage suggests a distinction between maintaining care and maintaining every inherited arrangement through which care has previously been delivered. The article's foresight implication is that adaptation should examine what a community needs to preserve as well as what it needs to reconsider.

This distinction matters in any proposed reading exercise involving strongly valued institutions. A facilitator should not ask participants to endorse Lauren's theology or equate her family with a Saudi institution. The transferable question concerns the treatment of internal questioning: can someone express concern about a shared practice without being interpreted as abandoning the group? Such a question preserves the novel's cultural specificity while opening discussion about participation. It also prevents the literary exercise from collapsing into a celebration of the unusually perceptive individual who supposedly has every answer.

4.2. Bacigalupi: coordinated action and the production of scarcity

The opening chapter of *The Water Knife* makes timing an instrument of power. Angel receives legal documents permitting action against Carver City's water infrastructure before a potential appeal can interrupt the operation. The sequence moves rapidly from authorization to enforcement. Collective capacity belongs to actors who can align legal procedure, transport, personnel, and force; the affected population faces the consequences within a timetable it does not control (Bacigalupi, 2015, chapter 1). The passage makes environmental harm inseparable from the organization of action, even though drought remains the wider condition.

The publisher's description of the novel places this conflict beside sharply unequal forms of urban survival: protected luxury developments coexist with displacement and insecurity. Its intersecting characters include an operative, a journalist, and a migrant, each differently positioned in relation to water and information (Bacigalupi, 2015). This arrangement complicates a simple account of collective failure. Coordination has not disappeared. Some actors are extremely capable of cooperating. The interpretive problem is that their cooperation can deepen the vulnerability of people outside the group they protect.

Ormerod's (2017) critical review provides an essential counterweight. She challenges the novel's treatment of water institutions and argues that its violent future can exaggerate the necessity of conflict while giving insufficient attention to actual possibilities of cooperation. Her objection changes how the text should enter foresight. A workshop that merely reproduces its desperate atmosphere could convert a contingent narrative into an apparently inevitable trajectory. Instead, participants should identify the institutions that the story diminishes and ask what alternative arrangements its plot makes difficult to see. The literary work remains valuable because it invites criticism as well as identification.

The resulting foresight question is precise: does a proposed adaptation reduce shared vulnerability, or

does it improve one group's position by reducing another group's access? This question cannot be answered by a count of partnerships or by an assertion that stakeholders are cooperating. It requires examining the objects and consequences of cooperation. The inference is also reversible. When a narrative portrays conflict as unavoidable, participants should construct an alternative account in which negotiation remains possible, then identify the institutional conditions that would make that alternative credible. Critical reading supplies the problem; contextual investigation must supply the evidence.

4.3. Robinson: representing people and lives beyond the present

Robinson's institutional founding passage adopts the register of an administrative history. Failed commitments are followed by arguments over institutional authority and the establishment of a permanent body. Its mandate extends to "future generations of citizens" and "all living creatures present and future" unable to represent themselves. The passage asks readers to imagine obligations as organizational responsibilities rather than private feelings. Yet its final movement toward a devastating Indian heat wave interrupts any suggestion that institutional creation itself constitutes protection (Robinson, 2020, ministry-founding passage).

The temporal effect is distinctive: an imagined future is narrated as an already completed sequence, making an unfamiliar institution appear historically intelligible. That rhetorical plausibility must remain separate from factual accuracy. The passage's conference setting and institutional history belong to the novel, not to an account of actual climate negotiations. Its critical value lies in exposing a representational problem. A body claiming to act for absent beneficiaries must decide who interprets their interests and how present decisions can be challenged when those beneficiaries cannot speak.

Monticelli and Frantzen (2025) interpret the novel through utopian realism, emphasizing its combination of institutional, technological, and grassroots strategies. Their reading challenges the assumption that plausible climate fiction must end in comprehensive defeat. It also draws attention to tensions in the novel's attempt to move beyond human-centered representation. For this article, the useful consequence is not a catalogue of fictional solutions to be adopted. It is a broader account of agency that refuses to locate transformation exclusively in personal virtue or a single governing institution. The coexistence of strategies invites questions about interaction, accountability, and conflicting obligations.

Sezer et al. (2024) sharpen this problem through their analysis of infrastructure and geoengineering in Robinson and Stephenson. They distinguish effectiveness from legitimacy and examine tensions between urgent intervention and sustained institutional action. Their argument reinforces a central proposition here: achieving a desired environmental effect does not settle who may authorize the means. A scenario may include powerful interventions while still requiring disagreement about consent, consequences, and representation. Fiction can hold those disagreements open rather than resolving them through the appearance of technical competence.

4.4. A comparative proposition

The comparison identifies three tests for environmental agency: whether belonging permits internal questioning, whether coordination transfers harm beyond its beneficiaries, and whether representatives remain answerable for future obligations. These tests do not imply a historical progression from household to infrastructure to global institution. Each concerns a problem that can arise at several scales. Their shared premise is that the existence of organized action is insufficient evidence of sustainability. Interpretation must establish what that action protects, what enables it, and what it leaves exposed. This proposition supplies the bridge from literary comparison to the proposed Saudi framework.

5. Saudi sustainability and the SDG connection

Contextual application begins with environmental priorities rather than fictional resemblance. The framework addresses water availability and management, energy transitions, urban resilience, consumption and waste, climate response, and terrestrial ecosystems. These concerns are aligned with SDGs 6, 7, 11, 12, 13, and 15. They form a defined environmental scope, not a claim that the novels were written to illustrate the United Nations agenda. The goals provide an external normative reference against which proposed scenarios can be questioned; literary criticism examines how those scenarios distribute attention, agency, and responsibility.

The Saudi setting requires attention to the relationship between environmental ambitions and the social

accounts that support them. Almaghlouth's (2022) study of Saudi online sustainability discourse identifies the prominence of action-oriented communication, national identity, and official actors. Those findings concern a particular media corpus and cannot stand for every Saudi institution or public. They nevertheless justify asking whose actions become visible in environmental narratives. The proposed framework complements that question by examining dependence, maintenance, uncertainty, and the everyday work through which announced ambitions would have to be realized.

For water, the connection is especially direct. Targets 6.1, 6.4, and 6.b link access, resource management, and local participation (United Nations, n.d.-e). A scenario can therefore ask who receives reliable water, who controls demand-management decisions, and whether consultation changes those decisions. These questions require locally verified information about supply systems and institutions. They do not justify importing the legal arrangements of the fictional American Southwest. What travels is the inquiry into access and authority, not the assumption that water scarcity necessarily produces the same political relationships everywhere. Energy and cities introduce connected responsibilities. Goal 7 addresses energy access, renewable energy, and efficiency; Goal 11 includes participatory urban planning and reducing disaster impacts (United Nations, n.d.-a, n.d.-f). In a proposed Saudi exercise, participants might examine access to cooling, the use of public space, and the practical responsibilities attached to buildings or transport. These are possible topics for locally designed inquiry, not reported deficiencies. The analytical purpose is to connect an environmental ambition to the people, infrastructures, and decision processes upon which its benefits would depend.

Consumption and climate education require equal care. Targets 12.5 and 12.8 concern waste reduction and sustainability knowledge, while target 13.3 addresses education, awareness, and capacities for climate response (United Nations, n.d.-b, n.d.-c). A literary discussion may contribute to learning under these headings, but participation in a discussion is not evidence of reduced waste or emissions. The framework therefore distinguishes interpretive outcomes from environmental outcomes. Recognizing an omitted actor in a scenario is a learning result; demonstrating an environmental improvement requires appropriate measurement beyond the reading exercise.

Goal 15 prevents the framework from reducing sustainability to human access alone. Its concern with land degradation and biodiversity requires participants to examine habitat and ecological continuity (United Nations, n.d.-d). Pereira et al. (2020) demonstrate how the Nature Futures Framework accommodates plural relationships between people and nature across scales. The present proposal draws on that plurality without claiming that the selected fiction provides adequate ecological expertise. Ecologists and locally knowledgeable participants must help specify what conservation or restoration would mean in the setting under discussion. A more inclusive cast of human protagonists does not, by itself, protect other forms of life.

6. A literary strategic foresight framework

6.1. Read before extracting a lesson

The framework begins with a short passage and a clearly stated environmental question. In a university or facilitated foresight setting, participants first examine the text's language, perspective, and sequence. They identify where their interpretations differ and retain at least one counterreading. The immediate output is a brief interpretive account supported by textual evidence. This ordering matters because an early demand for practical lessons can flatten irony, silence, or contradiction into a message chosen in advance. The aim is to learn what a text makes difficult to think about, as well as what it makes easy to imagine.

Facilitation should distinguish the author, narrator, character, and reader. A character's justification for an action does not automatically express the novel's endorsement. Nor does a reader's emotional identification settle the ethical status of the character's decision. Participants should be encouraged to describe the formal evidence for an interpretation before relating it to their own circumstances. A disagreement that remains unresolved can become the most productive input into scenario construction, especially when it concerns whose account of risk has been accepted too quickly.

6.2. Establish contextual differences and local evidence

The second stage identifies what cannot be transferred. Participants record differences between the fictional situation and the Saudi setting under consideration, including environmental systems, institutional authority,

social relationships, and cultural meanings. A second record identifies genuine questions of relevance. Both are necessary. Uncritical resemblance encourages false analogy, while an insistence that every context is unique can foreclose useful comparison. The output is a focused inquiry with an explicit evidential boundary: what the literary passage has prompted, what participants currently know, and what still requires verification.

Language access belongs within this stage. English departments can contribute close reading expertise, but English proficiency should not become the basis for participation in an environmental discussion. Where necessary, facilitators can provide authorized translations or concise bilingual summaries while preserving access to the original passage for literary analysis. Participants should be able to challenge an interpretation in the language in which they can reason most precisely. This is a proposed design principle for access, not a claim about the effects of a particular translation strategy or the preferences of Saudi participants.

6.3. Map capacity, dependence, and absent claims

The third stage maps actors according to their practical relationships with the environmental issue. It distinguishes those who decide, those who implement, those who maintain, those who depend on the system, and those who bear its side effects. These roles may overlap. The purpose is not to produce a fixed hierarchy of stakeholders but to identify mismatches between responsibility and control. A maintenance worker, household member, municipal planner, or business operator may possess relevant knowledge while exercising very different kinds of authority. Local participants, rather than the literary analyst alone, must establish which roles matter.

The map also records absent claims. Future residents, distant resource suppliers, habitats, and species cannot always participate directly in a workshop. Their interests require specified forms of representation, supported by relevant evidence and open to challenge. Representatives should state the basis of their claims and the uncertainties involved. This principle prevents an apparently inclusive exercise from replacing silence with the unchecked authority of whoever volunteers to speak for others. Representation becomes a responsibility to explain, document, and revise an account, rather than permission to claim complete knowledge of another life.

6.4. Construct alternatives under a common environmental pressure

The fourth stage creates contrasting scenarios around the same locally defined pressure. Keeping the environmental condition comparable helps participants examine how institutional choices change its consequences. One scenario might concentrate protection in a limited group; another might distribute adaptation through coordinated public and community arrangements; a third might describe fragmented responses with uneven maintenance. These are starting possibilities, not predetermined predictions or a universal scenario matrix. Participants can reject them or replace them when local evidence supports a different set of consequential uncertainties.

Merrie et al. (2018) show how science fiction prototyping can construct environmental scenarios informed by scientific research. Their ocean futures combine imaginative narratives with an explicit evidence base. The framework proposed here adopts the principle of evidential traceability, while retaining a separate role for literary disagreement. Each scenario should identify its factual inputs, uncertain assumptions, and invented events. It should also preserve the perspective of at least one actor whose interests complicate the preferred outcome. That requirement is designed to resist a scenario in which every character conveniently confirms the sponsoring institution's aspirations.

For example, a hypothetical exercise could examine a period of intense heat alongside constrained water availability in a Saudi urban district. No probability or observed condition is assigned here. Participants would first obtain suitable local evidence, then describe how different arrangements affect access, maintenance, ecological demands, and the ability to request help. Rewriting the scenario from another actor's position would test whether its initial account had mistaken administrative success for experienced protection. The exercise would remain a proposal until conducted with participants and an appropriate research or planning process.

6.5. Evaluate distribution, sequence, and trade-offs

The fifth stage assesses alternatives against the selected SDGs and the literary questions developed earlier. Participants examine who benefits, who pays, who waits, and who can alter the arrangement. They also ask whether improvement under one goal creates pressure under another. An intervention described as efficient might require resources or maintenance that another part of the scenario treats as unlimited. A greener public

space might be narrated entirely through its opening while its continuing care remains absent. Such questions direct attention from the attractiveness of a completed future to the obligations required to sustain it.

Temporal scrutiny is particularly useful. Participants distinguish emergency action from transition measures and continuing maintenance. They then identify which decisions preserve future options and which become difficult to reverse. An account written from a later viewpoint can be followed by a return to the present: what would need to happen first, who would have authority to initiate it, and what evidence would justify proceeding? This process does not infer a feasible pathway merely because a narrative supplies an ending. It subjects the pathway to examination by the people and disciplines able to assess its conditions.

6.6. Connect learning with accountable revision

The final stage translates discussion into a limited set of reviewable proposals. Each proposal identifies an actor with relevant authority, the evidence still needed, a next step, and a point at which the decision should be reconsidered. Participants also record unresolved disagreements and alternatives that were rejected. Bootz (2010) cautions that the relationship between foresight and organizational learning cannot simply be assumed. A workshop becomes relevant to institutional learning only when there is a process through which its questions and findings can influence subsequent reflection or action.

Evaluation should therefore separate three levels. The first concerns interpretation: whether participants can support readings and recognize alternative perspectives. The second concerns the foresight process: whether scenarios make assumptions explicit and represent consequential disagreements. The third concerns institutional response: whether proposals receive reasoned consideration and lead to documented revision where warranted. Environmental performance belongs to a further evidential task, using measures appropriate to the intervention. Keeping these levels distinct makes it possible to acknowledge useful learning without presenting it as an achieved sustainability outcome.

7. Discussion: contribution, objections, and research implications

The framework's principal contribution is to replace an automatic association between collectivity and sustainability with a question about the organization of protection. This is a conceptual refinement with practical consequences. A scenario may contain extensive cooperation and still normalize exclusion. It may include numerous voices while allowing only one account to determine the outcome. It may invoke future generations while postponing present vulnerability. The proposed method makes these possibilities visible before treating a narrated future as a desirable direction. Its value depends on keeping those questions open long enough for contextual evidence and disagreement to matter.

An important objection is that literature risks becoming an instrument of policy communication. If a novel is selected only to illustrate an approved sustainability message, its contradictions become obstacles to be edited away. The framework responds by making counterreading a necessary part of the process. A text can challenge the aims of a scenario exercise, including its definition of success. Literary expertise is useful precisely because it can identify the difference between an interpretation grounded in form and a lesson imposed from outside. Practical application should extend criticism, not determine its conclusions in advance.

Another objection concerns emotional influence. Schneider-Mayerson's (2018) survey of American climate-fiction readers found a readership already inclined toward environmental concern and showed that heightened awareness did not straightforwardly translate into substantial collective responses. Experimental work subsequently found immediate effects of selected climate stories on beliefs and attitudes, but effects were no longer statistically significant at the one-month follow-up (Schneider-Mayerson et al., 2023). These studies support caution about the pathway from reading to action. They neither establish the effects of the present corpus nor justify predictions about Saudi readers.

O'Neill and Nicholson-Cole's (2009) research on climate imagery further distinguishes attracting attention from supporting engagement. Because their evidence concerns visual communication, it cannot be transferred unchanged to novels. Nevertheless, the distinction helps formulate an appropriate evaluation question: does a discussion leave participants with greater capacity to investigate and deliberate, or only stronger feelings of threat? The proposed framework addresses that risk by connecting unsettling readings with contextual inquiry and alternative construction. Whether this design actually improves participation remains an

empirical question.

The corpus's geographical limits also deserve sustained attention. Schneider-Mayerson (2019) criticizes the marginalization of climate justice in influential American climate fiction, including the assumption that American experience can stand for the world. That criticism applies to the design of this article as well as to its objects. Three American writers cannot represent all English-language environmental imaginaries. Their selection establishes a focused contrast, not a global canon. Future research should test the framework with other Anglophone traditions and, where the research purpose allows, in dialogue with Arabic literary and environmental narratives.

The argument yields three propositions for further investigation. First, making differences in access and authority explicit should produce scenarios that distinguish environmental improvement from the redistribution of harm. Second, requiring an alternative interpretation should reveal assumptions that remain hidden when participants seek a single message from a text. Third, representing future and ecological interests should change the questions used to evaluate an intervention, even when it does not produce agreement about the preferred option. These propositions specify what the proposed process is intended to accomplish. They remain hypotheses about a method whose results would depend on facilitation, participant composition, institutional openness, and the evidence available.

A difficulty is the temptation to reward consensus as the main sign of success. Agreement can be useful, but a carefully documented disagreement may expose an unresolved trade-off more honestly than an optimistic ending. An evaluation should therefore examine the reasons participants give, the alternatives they considered, and the evidence that changed their judgment. It should also ask which views disappeared during revision and why. This makes the quality of deliberation assessable without assuming that a successful exercise must produce either unanimous approval or a dramatic change in attitudes among participants by the end of a single workshop session.

An empirical extension could compare a literary foresight process with an otherwise similar scenario workshop using factual briefing materials alone. Researchers would need to specify recruitment, language provision, facilitation, and the criteria used to evaluate outcomes. Suitable questions would concern recognition of unequal agency, explicitness of assumptions, quality of counterarguments, and the treatment of absent interests. Delayed assessment could distinguish an immediate response from continuing learning. Such a study should also examine whether participants experience the literary material as illuminating, culturally remote, or constraining. None of these responses can be presumed in advance.

8. Conclusion

Environmental risk becomes politically consequential through arrangements that determine whose knowledge counts, who can coordinate a response, and whose losses remain acceptable. English climate fiction offers a distinctive way to examine those arrangements because narrative form distributes perception, time, and agency. The comparative reading developed here makes collective action an object of criticism rather than an unquestioned solution. Protection can sustain belonging, enforce exclusion, or extend responsibility beyond the present; its ethical and environmental significance depends on the relationships it creates.

For Saudi sustainability, the proposed framework connects literary inquiry with a defined set of environmental SDGs through contextual comparison, alternative scenarios, and accountable revision. Its contribution is neither a forecast nor evidence of national policy effectiveness. It is a method for asking better questions about possible futures before endorsing them. Literature retains its scholarly value when the questions it introduces remain open to disagreement, while foresight gains depth when it examines who could live with the consequences of the future it describes.

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Data availability: The article analyses public institutional webpages. The source register and representative Romanized excerpts are included. A reusable corpus should be archived only after checking institutional copyright, webpage changes, and journal data-sharing requirements.

Ethics: The corpus contains no private or personal data. Institutional texts are quoted briefly for scholarly analysis.

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