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A Multidisciplinary Conceptual Framework for Advancing Research, Innovation, and Sustainable Development Across Diverse Fields.

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FIELDS framework, multidisciplinary research, responsible innovation, sustainability research, sustainable development

ABSTRACT

This article develops a multidisciplinary conceptual framework to support research, innovation, and sustainable development across different fields. The main challenge today is not only the lack of knowledge. It is also the lack of strong frameworks that can connect research, responsible innovation, practical implementation, and sustainability outcomes. Existing studies show that sustainable development is often slowed by fragmented governance, weak local application of missions, poor knowledge integration, limited evaluation systems, and inadequate alignment between innovation and social or environmental goals. To address this gap, the article proposes the FIELDS framework. It includes six connected functions: Frame, Integrate, Experiment, Leverage, Diffuse, and Steer. The framework brings together systems thinking, mission orientation, co-production, responsible innovation, ecosystem support, and reflexive evaluation. It also highlights key enablers such as policy coherence, data governance, finance, skills, and justice. The article argues that impactful sustainability research should be judged not only by publications or patents, but by its ability to create practical, responsible, and scalable change..

1. INTRODUCTION

The need to redesign research systems is no longer optional. It has become a structural demand. Issues such as climate change, biodiversity loss, inequality, food insecurity, digital disruption, and geopolitical tensions cannot be treated as separate policy concerns. They are deeply connected and often influence one another. The IPCC synthesis report also highlighted the close relationship between climate, ecosystems, biodiversity, and human societies. Similarly, the United Nations 2024 SDG progress assessment showed that the world is still far behind the targets of the 2030 Agenda. These realities suggest that the traditional model of research is no longer sufficient. In that model, science first produces knowledge, policy uses it later, and industry applies it eventually. However, today's challenges require a faster, more connected, and more practical approach (Intergovernmental Panel on Climate Change, 2023; United Nations, 2024). The empirical context further strengthens this concern. OECD evidence from 2025 indicates that environmental innovation is already changing markets in meaningful ways. At the same time, it also shows that targeted public support, improved indicators, and stronger connections between science and sustainability outcomes are still needed. This means that innovation is taking place, but the systems used to govern, measure, and guide it are still not fully developed (OECD, 2025)..

Recent conceptual literature has made important progress since 2021. Yet, it remains scattered across different fields. Sustainability science focuses on transformation, leverage points, reflexivity, and the link between knowledge and action. Innovation studies add ideas such as mission-oriented innovation, ecosystem coordination, diffusion, portfolio thinking, and scaling. Transdisciplinary research contributes co-production, shared learning, and sensitivity to local contexts. Responsible research and innovation brings in anticipation, inclusion, responsiveness, and ethical reflection. Each of these streams is valuable. The main problem is that they are often used separately, rather than being combined into one practical and workable framework (Allen & Malekpour, 2023; Ehlers et al., 2025; Hakkarainen & Lazurko, 2025; Hebinck et al., 2022; Lazurko et al., 2024)...

This article responds to that gap. It develops a multidisciplinary framework for concept-driven manuscripts in the area of innovation and sustainability. The framework is not presented as a fixed or universal solution. Instead, it is offered as a structured synthesis. Its purpose is to support scholars, funders, and practitioners in designing research and innovation systems that are more integrated, responsible, and capable of implementation across different fields and real-world contexts.

2.Review of Literature

The first important stream of literature deals with transformation and acceleration. Sustainability science reviews suggest that sustainable development cannot be achieved through small and isolated actions alone. It needs deeper changes in system design, feedback processes, and leverage points. The literature also shows that acceleration depends on several conditions. These include reinforcing feedbacks, protected spaces for experimentation, supportive policy combinations, and the gradual decline of unsustainable systems. The X-curve framework adds further clarity to this debate. It explains both the growth of new systems and the breakdown of old ones within the same visual logic. This is a useful contribution because sustainability transitions are not only about supporting new ideas. They also require the careful phasing out of practices that are no longer sustainable (Allen & Malekpour, 2023; Hebinck et al., 2022).

The second stream focuses on mission-oriented innovation. Its value is easy to understand. Missions provide direction, bring different actors together, and connect innovation with major social challenges. However, critical studies also point out some important limitations. They warn against excessive normativity, top-down optimism, limited stakeholder diversity, weak empirical support, and insufficient attention to unintended consequences. Recent research further argues that missions should not be treated as abstract or place-neutral goals. They need to be translated into local priorities, institutional realities, and practical pathways that fit specific contexts (Kirchherr et al., 2023; Uyarra et al., 2025).

The third stream relates to transdisciplinarity and co-production. Recent literature does not simply present collaboration as a positive idea. Instead, it asks more practical and critical questions. How should research teams prepare for co-production? How can power differences be managed in real research settings? Which values are included in evaluation processes? How can knowledge integration be shown clearly rather than assumed? These studies highlight the importance of context, positionality, purpose, power, and process. At the same time, they also show that current research assessment systems still face difficulties in evaluating interdisciplinary and transdisciplinary work fairly (Ligtermoet et al., 2025; Rosero-Toro et al., 2026; Schaltegger & Vienni-Baptista, 2026).

The fourth stream focuses on responsible and reflexive innovation. Ehlers et al. (2025) explain how responsible research and innovation can be applied across the project cycle when it is combined with sustainability assessment. Lazurko et al. (2024) extend this discussion by arguing that ambiguity is a normal part of sustainability science. They propose reflexive boundary critique as a practical way to deal with such complexity. Hakkarainen and Lazurko (2025) further suggest that sustainability scientists often work at the intersection of knowledge production and real-world intervention. Because of this, political reflexivity becomes necessary. It is not just an optional methodological choice.

The fifth stream examines ecosystems, circularity, digitalization, and data stewardship. Innovation today often takes place through ecosystems rather than through individual firms alone. Circularity also requires more than isolated action. It needs coordinated portfolios, synchronization across organizations, and ecosystem-level orchestration. Digital transformation can support sustainability innovation by expanding its reach and speed. However, without strong data governance, it may also create new problems such as fragmentation, lack of transparency, or technological lock-in. For this reason, recent reviews emphasize the need for governance structures that combine openness with accountability (de Vasconcelos Gomes et al., 2023; Janik & Ryszko, 2025; Liao et al., 2024; Bernardo et al., 2024; Pacheco et al., 2025).

Overall, the literature points to a clear gap. High-impact sustainability research now needs a framework that can connect direction, inclusion, experimentation, infrastructure, diffusion, and reflexive governance within one coherent design. Such a framework can help researchers move beyond fragmented approaches and develop more integrated pathways for sustainability-oriented innovation.

3.Theoretical Foundation

3.1 Systems Thinking

Complex sustainability problems do not operate in a simple or linear way. They involve multiple levels, delayed outcomes, feedback loops, and repeated lock-ins. For this reason, any useful framework must begin with clear boundary setting and careful system diagnosis. This approach is also supported by recent studies on acceleration, ambiguity, and sustainability transitions. It helps researchers understand that the way a problem is framed is not neutral. Framing decisions shape what is seen, what is ignored, and what kind of solutions become possible (Allen & Malekpour, 2023; Hebinck et al., 2022; Lazurko et al., 2024)

3.2 Mission Orientation with Contextual Translation

Grand challenges require clear direction. However, they cannot be solved through broad slogans alone. The mission-oriented innovation literature shows that research and innovation become more focused when goals are time-bound, practical, and socially meaningful. At the same time, critical studies warn that directionality can become weak if it is not supported by participation and local relevance. Without these elements, missions may lose legitimacy and become difficult to implement. Therefore, missions should be both directional and context sensitive. They must connect wider societal goals with local needs, institutions, and capacities (Kirchherr et al., 2023; Uyarra et al., 2025).

3.3 Transdisciplinary Knowledge Integration

Sustainability challenges cannot be addressed by simply combining different academic disciplines. They require deeper integration of scientific, professional, civic, and local forms of knowledge. In many contexts, indigenous knowledge may also be important. This process also needs attention to positionality, power, and the role of different actors. Recent literature on co-production moves beyond a general call for participation. It focuses more on how collaboration fits the context, how learning takes place, and how knowledge is actually integrated in practice (Ligtermoet et al., 2025; Rosero-Toro et al., 2026; UNESCO, 2025).

3.4 Responsibility and Reflexivity

Sustainability-oriented research cannot assume that every impact will automatically be positive. Innovation may create benefits, but it can also produce risks, exclusions, or unintended consequences. Responsible innovation therefore gives importance to anticipation, inclusion, reflexivity, and responsiveness. Recent studies show that these principles become more useful when they are connected with practical sustainability assessment methods. They also become stronger when ambiguity is openly recognized instead of being ignored. In this sense, reflexivity is not only a theoretical idea. It is a necessary part of responsible research design (Ehlers et al., 2025; Hakkarainen & Lazurko, 2025; Lazurko et al., 2024).

3.5 Ecosystem Orchestration

Even strong research projects can fail if they cannot move beyond the pilot stage. Implementation often depends on supply chains, institutions, data systems, regional capacities, and coordination among different actors. Ecosystem research shows that innovation does not grow through isolated efforts alone. It needs portfolio planning, external knowledge sharing, start-up support, public coordination, and digital interoperability. These conditions influence whether a new solution remains limited to one local experiment or becomes part of a wider transformation. Therefore, ecosystem orchestration is essential for converting sustainability-oriented research into practical and scalable change (Bernardo et al., 2024; de Vasconcelos Gomes et al., 2023; Janik & Ryszko, 2025; Liao et al., 2024).

4.Research Methodology

This paper is developed as a conceptual article. The proposed framework was prepared through an integrative synthesis of recent academic studies and official reports. The review mainly focused on sources published between 2021 and 2026, especially from leading journals and recognized institutional publishers. The selection of literature was thematic rather than exhaustive. This means that the purpose was not to cover every available study, but to bring together the most relevant ideas for framework development. Five major knowledge streams were combined in this process. These include sustainability transformations, mission-oriented innovation, transdisciplinary and co-produced research, responsible research and innovation, and ecosystem and digital governance (Allen & Malekpour, 2023; Ehlers et al., 2025; Ligtermoet et al., 2025; Liao et al., 2024; OECD, 2025).

The framework was developed through four main analytical steps. First, the literature was examined to identify repeated design problems. These included fragmentation, weak local translation, limited reflexivity, implementation barriers, and poor evaluation systems. Second, the literature was reviewed to identify mechanisms that could respond to these problems. These mechanisms included mission framing, co-production diagnostics, RRI-SA stage-gating, ecosystem orchestration, and adaptive metrics. Third, these mechanisms were arranged into a framework that is sequential in structure but iterative in practice. In other words, the framework follows a logical order, but it also allows movement back and forth between stages. Fourth, the framework was analytically examined against cross-sector applications discussed in recent scholarship. These sectors included agriculture, health, energy, cities, education, and policy systems (de Vasconcelos Gomes et al., 2023; Marciniak et al., 2024; Martinez-Ramon et al., 2026; Schaltegger & Vienni-Baptista, 2026).

The final outcome is a heuristic and operational framework. It can be used for theory building, project design, funding strategy, and comparative research. However, it should not be treated as an empirically tested model at this stage. Its empirical validation remains an important task for future research.

5.Proposed Multidisciplinary Conceptual Framework: The FIELDS Model

The proposed model is called the FIELDS framework. It brings together six connected functions: Frame, Integrate, Experiment, Leverage, Diffuse, and Steer. These functions follow a logical sequence, so they can guide research and innovation design. At the same time, they are flexible enough to allow learning, revision, and movement between stages.

5.1 Frame

Sustainability-oriented work should begin with careful framing. The societal challenge must be defined as a mission, but this should not be done in a vague or abstract way. Researchers also need to identify system boundaries, scale, place, and possible trade-offs linked with the chosen framing. Framing is not just an administrative step. It shapes the entire direction of the project. Poor framing may lead to weak partnerships, limited legitimacy, and shallow innovation. Strong framing, on the other hand, connects global sustainability goals with local realities and practical needs (Kirchherr et al., 2023; Lazurko et al., 2024; Uyarra et al., 2025).

5.2 Integrate

The second function is integration. This refers to the planned integration of disciplines, sectors, and different knowledge systems. It is not enough to simply invite stakeholders to workshops. Real integration requires early attention to context, positionality, purpose, power, and process. Based on this understanding, collaborative arrangements can be designed more carefully. These arrangements should support cognitive, relational, normative, and epistemic learning. In this way, integration helps generate both new ideas and social legitimacy (Ligtermoet et al., 2025; Schaltegger & Vienni-Baptista, 2026).

5.3 Experiment

The third function is responsible experimentation. Sustainability research and innovation should be tested through protected pilots, living labs, mission arenas, or similar spaces. These spaces allow alternative ideas to be examined before harmful lock-ins become stronger. However, experimentation should not be treated as trial and error alone. It must include anticipation, inclusion, reflexivity, and responsiveness. Sustainability assessment should also be included from the early stages of the project. This makes experimentation both ethical and strategic (Ehlers et al., 2025; Hebinck et al., 2022).

5.4 Leverage

The fourth function focuses on leverage. This stage deals with the infrastructures and support systems that decide whether promising solutions can actually move forward. These may include finance, regulation, networks, digital platforms, data governance, standards, procurement, and intermediary organizations. A project may be innovative and well-designed, but it can still fail if it is not connected to a suitable implementation ecosystem. Therefore, leverage acts as a bridge between the creation of innovation and its practical uptake (Bernardo et al., 2024; de Vasconcelos Gomes et al., 2023; Liao et al., 2024; OECD, 2025).

5.5 Diffuse

The fifth function is diffusion and adaptation. Useful solutions should be scaled where they are suitable, but scaling should not be automatic. It needs to be selective and reflective. Some solutions may be replicated across contexts. Some may need to be translated according to local conditions. Others may work best only at the local level. This stage also includes the planned phase-out of outdated or harmful practices. Transition studies show that this part is often ignored. Without phase-out, old and new systems simply continue side by side. That creates coexistence, not real transformation (Allen & Malekpour, 2023; Hebinck et al., 2022; Janik & Ryszko, 2025).

5.6 Steer

The final function is adaptive steering. Evaluation should not only measure outputs. It should also examine social legitimacy, knowledge integration, ecosystem activation, diffusion pathways, SDG synergies, and possible trade-offs across places and sectors. Steering completes the learning cycle. It sends feedback into reframing, reintegration, and redesign. This is what keeps the framework dynamic. Without adaptive steering, the model would again become linear and less responsive to real-world complexity (OECD, 2025; Schaltegger & Vienni-Baptista, 2026; Xiao et al., 2024).

Figure 1. Integrated FIELDS Conceptual Framework

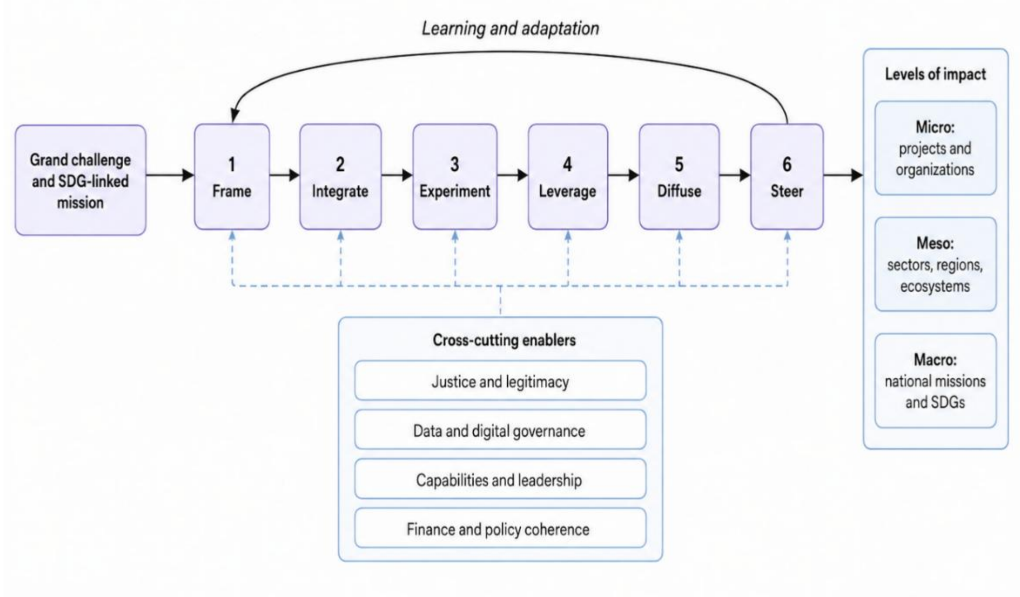

Figure 1 is an author-created synthesis derived from the literature reviewed above. It translates mission framing, co-production, responsible experimentation, ecosystem leverage, diffusion, and reflexive steering into one integrated visual model.

Figure 2. Implementation flow for applying the FIELDS framework

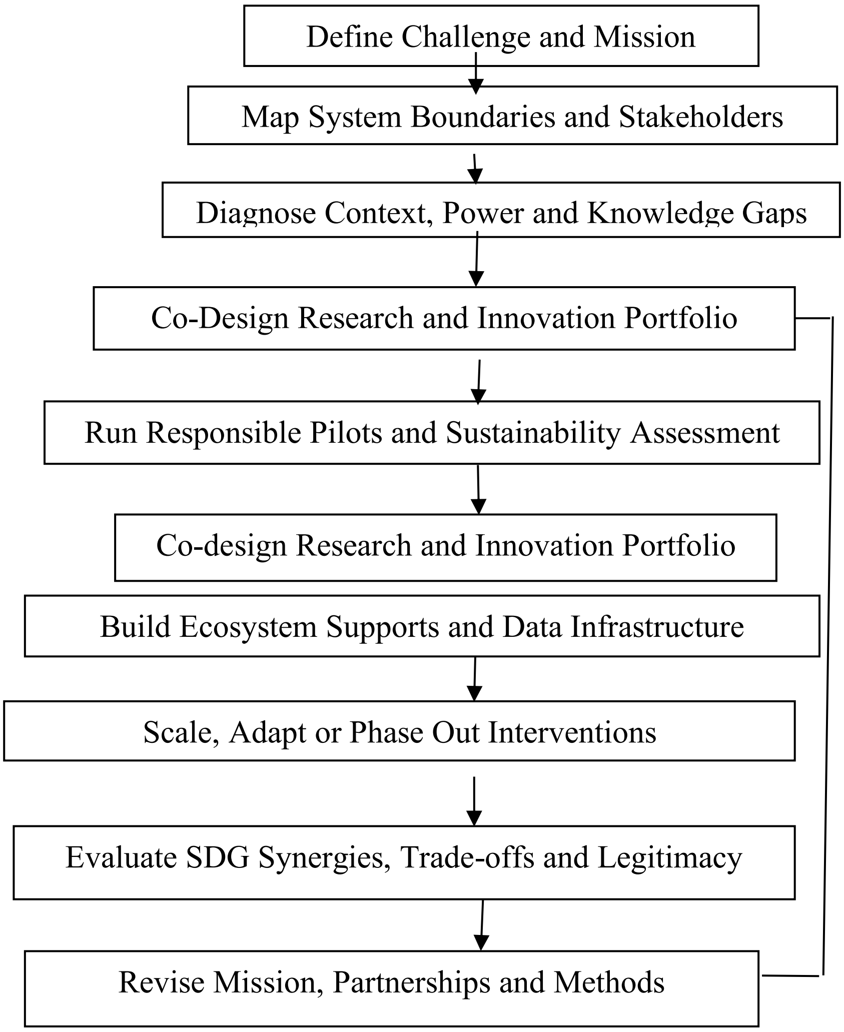

Figure 2 converts the framework into a sequence that researchers, funding bodies, or innovation teams can adapt to a concrete program or manuscript design. It emphasizes iteration because steering feeds back into reframing and redesign.

6.Tables and Analytical Models

Table 1. Prioritized recent sources that directly informed the framework

Source	Type	Core contribution	Why it matters for FIELDS
United Nations (2024)	Official report	Shows SDG progress remains far off track	Justifies urgent need for integrative frameworks
OECD (2025)	Official report	Demonstrates importance of STI indicators, environmental innovation, and funding design	Grounds Leverage and Steer functions
Allen & Malekpour (2023)	Review article	Explains acceleration, leverage points, and transformation dynamics	Grounds Frame, Leverage, and Diffuse
Hebinck et al. (2022)	Conceptual/action research	Builds the X-curve linking build-up and breakdown	Grounds phase-out logic within Diffuse
Kirchherr et al. (2023)	Critical review	Identifies key critiques of sustainability missions	Guards against technocratic misuse of Frame
Ehlers et al. (2025)	Framework article	Integrates RRI and sustainability assessment across project phases	Grounds Experiment and Steer
Ligtermoet et al. (2025)	Diagnostic framework	Develops a context-centered co-production diagnostic	Grounds Integrate
de Vasconcelos Gomes et al. (2023)	Ecosystem innovation study	Shows portfolio logic for circular ecosystem innovation	Grounds Leverage
Liao et al. (2024)	Review/bibliometric article	Proposes a digital transformation roadmap for sustainable innovation ecosystems	Grounds digital infrastructure in Leverage
Bernardo et al. (2024)	Systematic review	Synthesizes data governance concepts and maturity models	Grounds data stewardship in Leverage and Steer
Schaltegger & Vienni-Baptista (2026)	Assessment review	Shows value conflicts in IDR/TDR assessment	Grounds reflexive governance in Steer

Table 2. Comparison of major models and the gap addressed by FIELDS

Model or lens	Primary strength	Typical blind spot	What FIELDS retains	What FIELDS adds
Mission-oriented innovation	Directionality and societal challenge focus	Can become top-down or spatially thin	Goal orientation	Local translation, inclusion, evaluation
Transdisciplinary co-production	Legitimacy, relevance, and mutual learning	Often under-specified in implementation and assessment	Collaborative problem framing	Stage-linked governance and diffusion logic
RRI with sustainability assessment	Ethics, anticipation, reflexivity, responsiveness	May remain project-bounded	Responsible experimentation	Ecosystem scaling and phase-out
Transition and X-curve thinking	Makes build-up and breakdown visible	Limited operational detail for project design	Build-up/breakdown symmetry	Integrated research-to-implementation pipeline
Ecosystem and circular innovation management	Highlights orchestration, portfolios, interdependence	Can underplay justice and reflexivity	Network and portfolio logic	Explicit inclusion and SDG steering
Digital innovation and data governance	Infrastructure, interoperability, measurement	Risk of technocratic framing	Data and platform capabilities	Normative guardrails and responsible use

Table 3. Suggested evaluation dashboard for applying FIELDS

Stage	Example indicators	Why they matter
Frame	Mission clarity, boundary transparency, scale definition, identified SDG trade-offs	Prevents vague or politically simplistic problem statements
Integrate	Stakeholder diversity, co-design quality, power mapping, knowledge integration score	Tests whether inclusion is real, not symbolic
Experiment	Number and type of pilots, anticipatory assessment, ethical review, learning loops	Tracks responsible experimentation
Leverage	Ecosystem partners, policy support, financing mix, data governance maturity, interoperability	Measures implementation readiness
Diffuse	Adoption rate, adaptation across contexts, phase-out milestones for unsustainable practices	Moves beyond pilot success
Steer	SDG synergies, trade-offs, spillovers, legitimacy indicators, reflexive review frequency	Tracks transformation quality over time

Table 4. Representative open-access visuals that can be adapted or cited in a journal submission

Open-access figure source	What the visual shows	Suggested use in the article
Hebinck et al. (2022), Fig. 2	X-curve of build-up and breakdown	Literature review or theoretical foundations
Xiao et al. (2024), Fig. 1	Transboundary SDG interaction framework	Policy implications and SDG trade-offs
Martinez-Ramon et al. (2026), Fig. 2	Pathways for sustainable innovation in mixed farming systems	Practical applications in agriculture
Ligtermoet et al. (2025), Fig. 1	Context-centered 4P co-production framework	Methods or knowledge integration discussion

7.Practical Applications Across Diverse Fields

7.1 Health and Public Health

In health and public health, the FIELDS framework can help shift attention from treatment alone to prevention, equity, and system resilience. It encourages researchers to frame health challenges more broadly and to include patients, communities, clinicians, and regulators from the early stages. It also supports responsible experimentation with digital health tools, biomedical interventions, and public health strategies. Evaluation should not be limited to clinical effectiveness. It should also examine access, trust, affordability, and distributional effects. This reflects the wider argument that research impact should be assessed through social relevance and implementation capacity, rather than publication output alone (Ehlers et al., 2025; Schaltegger & Vienni-Baptista, 2026).

7.2 Agriculture and Food Systems

The framework is also useful in agriculture and food systems. Food-related transitions are complex because they involve ecological, economic, nutritional, cultural, and infrastructural issues at the same time. For this reason, solutions cannot be copied from one context to another without adjustment. Recent studies on smallholder mixed farming show that systems thinking, participation, and context sensitivity are important for responsible innovation. Similarly, mission-oriented agrifood research suggests that local drivers of change should be identified through collective discussion, rather than imposed from outside (Martinez-Ramon et al., 2026; Frangenheim et al., 2025).

7.3 Energy and Industry

In energy and industry, FIELDS can support both the rise of new systems and the decline of old ones. Decarbonization is not only about increasing renewable energy. It also involves phasing out fossil fuels, repurposing infrastructure, supporting skill transitions, and sequencing policies carefully. The X-curve logic is especially relevant in this area. It reminds researchers and policymakers that destabilization, breakdown, and institutionalization must be addressed together. Without this combined approach, energy transitions may remain slow, fragmented, or incomplete (Hebinck et al., 2022; Allen & Malekpour, 2023; OECD, 2025).

7.4 Urban and Regional Development

In urban and regional development, the framework helps connect global sustainability goals with local missions. Cities and regions face different challenges, so they need place-based solutions and collaborative governance arrangements. Literature on local multiple-helix approaches shows that flexible stakeholder arrangements may work better than fixed actor models. This is especially important when dealing with sustainability, resilience, and regional transformation. The idea fits well with the FIELDS framework, which gives importance to contextual framing, stakeholder integration, and ecosystem leverage (Hernandez et al., 2026; Uyarra et al., 2025).

7.5 Higher Education and Research Management

In higher education and research management, the FIELDS framework can be used to improve doctoral training, funding calls, project review systems, and institutional reward structures. Universities and funding bodies increasingly need models that support interdisciplinary and transdisciplinary research. Recent literature highlights the importance of transformative capacities, reflexivity, and supportive institutional environments. In this sense, FIELDS is not only useful for individual research projects. It can also work as a governance model for universities, research councils, and funding agencies that want to promote sustainability-oriented research (Marciniak et al., 2024; Hakkarainen & Lazurko, 2025; UNESCO, 2025).

8. Policy and Managerial Implications

The first implication is that governments and funding bodies need to move beyond isolated project-based support. They should give more attention to mission-aligned research portfolios. Such portfolios should not include only core research activities. They should also cover problem framing, experimentation, implementation support, and evaluation. Recent studies on innovation ecosystems and portfolios show that outcomes depend strongly on coordination among different actors, institutions, and projects (de Vasconcelos Gomes et al., 2023; OECD, 2025).

The second implication relates to data governance and measurement. Public policy should not treat these issues as purely technical matters. They are strategic concerns. OECD evidence shows that measurement gaps still create problems for decision-making in science, innovation, and sustainability. New indicators are needed to assess upstream scientific contributions, adoption patterns, ecological impacts, and cross-border spillovers. If policy supports innovation but does not support measurement, it becomes difficult to learn what is actually working (OECD, 2025; Xiao et al., 2024).

The third implication is institutional. Funding systems, review panels, and academic evaluation criteria should recognize co-production, reflexivity, societal relevance, and responsible experimentation. Without this shift, interdisciplinary and transdisciplinary research will continue to be praised in theory but discouraged in practice. Recent assessment literature clearly shows that many evaluation systems still struggle to reward this kind of work fairly (Ligtermoet et al., 2025; Schaltegger & Vienni-Baptista, 2026).

9. Limitations

This study is conceptual in nature. It brings together relevant literature, but it does not test causal relationships empirically. It also does not compare the proposed framework with alternative models or estimate effect sizes. Another limitation is related to source selection. The paper gives priority to English-language, high-visibility journals and official reports. This improves academic rigor, but it may also overlook regionally grounded studies and non-English scholarship.

A further limitation is that some parts of the framework are difficult to measure through simple indicators. These include value pluralism, diffusion, and long-term institutional change. Such issues are complex and often develop over time. The recent literature also acknowledges that evaluating interdisciplinary and transdisciplinary work remains challenging (Rosero-Toro et al., 2026; Schaltegger & Vienni-Baptista, 2026).

10. Future Research Agenda

Future research can extend this framework in four major ways. First, the FIELDS framework should be tested through comparative sectoral studies, especially in areas where sustainability trade-offs are strong. Second, researchers should develop validated measurement tools for knowledge integration, reflexivity, diffusion quality, and managed phase-out. Third, future studies should examine how the framework works in low-capacity and high-inequality contexts. These contexts may have very different institutional conditions from those usually assumed in transition studies.

Fourth, more attention should be given to digital infrastructures, platform governance, and AI-mediated decision systems. These technologies are increasingly shaping innovation systems. Future research should examine how they influence legitimacy, accountability, and sustainability outcomes in multidisciplinary settings (OECD, 2025; Bernardo et al., 2024; Martinez-Ramon et al., 2026; Marciniak et al., 2024).

11. Conclusion

The literature now points toward an important conclusion. Sustainable development will not be accelerated by producing more knowledge alone. It also requires better systems that connect knowledge creation, responsible innovation, implementation ecosystems, and adaptive governance. The FIELDS framework offers one possible way to build such a system. The framework is multidisciplinary in design and practical in orientation. It is also based on systems thinking. Its main value lies in integration. It helps researchers, institutions, funders, and policymakers move beyond fragmented excellence toward coordinated transformation. This is becoming increasingly important for the next decade of sustainability research and innovation (Allen & Malekpour, 2023; Ehlers et al., 2025; OECD, 2025; UNESCO, 2025; United Nations, 2024).

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