

CONVERGENCE

TENETS

TENSIONS



Multiscale RECIPES
for Sustainable Food Systems

Resilient, Equitable, and Circular
Innovations with Partnership
and Education Synergies (RECIPES)



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Multiscale RECIPES for Sustainable Food Systems (2024)

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Funded by the National Science Foundation (NSF), the Multiscale RECIPES for Sustainable Food Systems network is a national food waste research network bringing together over 40 researchers and 15 institutions and other partners across the country working to advance the science needed to make our wasteful food system sustainable, equitable, and resilient.

As “convergent research” is a priority of NSF and thus of our Multiscale RECIPES network, in 2023 we embarked on a journey together as a network to evolve a common language and collective understanding of convergence.

While people across the network were starting to embrace the term and the general concept of convergence, there was significant divergence in how the term was being applied and referenced. And while this diversity of thinking is itself at the heart of convergence, we realized how important it was to find at least a common foundation of understanding – not a “definition” per se – but at least a common language and collective understanding of what convergence means to us, and how it relates to and contributes to achieving our collective goals as a network.

In an effort to evolve this common language and collective understanding, we conducted a series of “convergence conversations” with colleagues across the network to collect the network’s understandings of, experiences with, and hesitations around convergence.

Key questions that guided the conversations included:

- What does convergence mean to you?
- How does convergence differ from other forms of collaboration?
- What are analogous terms from various disciplines?
- How does convergence feel in practice?
- How do we know when convergence has been achieved?
- How much convergence is enough?
- Is convergence a goal in itself or a means to the goal?

We shared initial insights from these conversations in our annual in-person gathering. The feedback we received then and from subsequent virtual meetings informed this list of “Tenets and Tensions” – that is, areas of both convergent and divergent thinking related to the concept of convergence across the network.

Since divergence is an inherent element of convergence, we embrace both in these Tenets and Tensions. They are intended to reflect what conducting convergent research means to us, where we find common ground, as well as the areas that challenge us and where differences in opinion exist.

06	The concept of convergence is a priority for the National Science Foundation (NSF).
07	Convergence can only be achieved by a diverse team intentionally coming together, collaborating, and learning from one another.
08	Convergence builds upon and goes beyond other forms of collaboration in many fields, especially in academia.
09	Convergence requires new taxonomies and tools for acknowledging the different contributions of diverse individuals, disciplines, and institutions.
10	Convergent research begins with defining a shared goal or problem among stakeholders (community members, researchers, etc.), usually focused on a pressing societal issue.
11	How much convergence is enough?
12	Convergence is not only about evolving new ideas, thinking, and mindsets, but also about action, change, and outputs.

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Convergence **TENETS**

As a network, we generally agree that the following characteristics are necessary in order to achieve convergence:

The concept of convergence is a priority for the National Science Foundation (NSF).

Convergence can only be achieved by a diverse team intentionally coming together, collaborating, and learning from one another.

Convergence builds upon and goes beyond other forms of collaboration in many fields, especially in academia.

Convergence requires new taxonomies and tools for acknowledging the different contributions of diverse individuals, disciplines, and institutions.

Convergent research begins with defining a shared goal or problem among stakeholders (community members, researchers, etc.), usually focused on a pressing societal issue.

How much convergence is enough?

Convergence is not only about evolving new ideas, thinking, and mindsets, but also about action, change, and outputs.

The concept of convergence is a priority for the National Science Foundation (NSF).

Because Multiscale RECIPES for Sustainable Food Systems is funded by NSF, convergent thinking and research must also be embraced and prioritized by all of us in the network.

Convergence can only be achieved by a diverse team intentionally coming together, collaborating, and learning from one another.

Because convergence intentionally brings together such diverse teams from various backgrounds, disciplines, lived experience, and methodologies, it enables new ways of creating, thinking and doing – new mindsets, frameworks, methodologies, and interventions – beyond what might have been possible for individual people or disciplines.

Convergence builds upon and goes beyond other forms of collaboration in many fields, especially in academia.

While interdisciplinary, transdisciplinary, and multidisciplinary collaboration involve and combine one or more disciplines or fields of study, the collaborative approach and outcomes from convergence require team members to continually interface, commingle, and integrate. True convergence makes it difficult to identify and separate out the individual disciplines or methodologies that contributed to the process.

Convergence requires new taxonomies and tools for acknowledging the different contributions of diverse individuals, disciplines, and institutions.

In convergent research, attribution, credit, and intellectual property is shared. The different levels and types of contributions of collaborators must be appropriately recognized, acknowledged, and valued.

Convergent research begins with defining a shared goal or problem among stakeholders (community members, researchers, etc.), usually focused on a pressing societal issue.

A convergent approach is essential to thoroughly understanding, framing, and comprehensively addressing complex, multi-dimensional, and systemic problems such as wasted food. The collective learning and knowledge creation embodied in convergence can lead to deeper and evolved understanding, and potentially to a more thorough framing (or reframing) of the original problem.

How much convergence is enough?

Convergence can occur at both small and large scales and continuously evolves over time. Convergence is not a linear process and doesn't have a clear beginning or end. It is in a constant stage of emergence and is never necessarily complete or fully "achieved." Convergence is therefore possible to "feel" but difficult to concretely measure or evaluate.

Convergence is not only about evolving new ideas, thinking, and mindsets, but also about action, change, and outputs.

Convergent research is not simply an academic, intellectual, or theoretical endeavor. Convergent research must be applied, shared, and/or implemented in order to contribute to addressing the collectively defined goal.

Convergence TENSIONS

While we as a network generally agree that convergence is important to addressing wasted food, there are also divergent thoughts and feelings about the concept of convergence itself.

Divergence is part of convergence.

Convergence can be both unifying and alienating.

Convergence requires a foundation of connection, transparency, and trust.

Convergence challenges traditional hierarchies and roles.

Pressure to converge does not always align with other priorities.

How much divergence is enough?

Is convergence the goal itself or the means to the goal?

Divergence is part of convergence.

Convergence is complex, can be uncomfortable, messy, and difficult. Convergence is not consensus. While conducting convergent research, individual team members need to embrace divergence as an integral part of the process and should extend beyond their usual domains and comfort levels.

Convergence can be both unifying and alienating.

While some feel convergence is relatable, others feel it is an inaccessible, lofty, and/or jargony term. Convergence describes forms of collaboration and interdisciplinarity that already exist in some disciplines or methodologies and can come across as a “fad” to some or even as judgemental to others. It can also be alienating to those who are not from “hard” scientific and/or academic backgrounds.

Convergence requires a foundation of connection, transparency, and trust.

Convergence requires investment in developing relationships between people based upon openness, transparency, psychological safety, and a sense of belonging. These types of connections engender the spirit of collaboration and experimentation at the heart of convergent research and help us reach our full potential. Network members feel varying levels of connection with and understanding from their RECIPES colleagues. While some feel aligned with and understood by the network, others feel disconnected. Some network members lack clarity about the goals and direction of the network and how to function within it, which makes it difficult to contribute or collaborate.

Convergence challenges traditional hierarchies and roles.

Convergence can contribute to dismantling power dynamics and hierarchical relationships in traditional academic research. True convergence requires all collaborators, academic and otherwise, to step away from their roles as “expert,” “teacher,” and/or “student.” They must arrive ready and open to learn, teach, and work with one another. However, many RECIPES network members struggle with this since academia often incentivizes and rewards being an “expert.”

Pressure to converge does not always align with other priorities.

Network members are often juggling competing priorities and responsibilities. They lack time and resources to take on more work, making it difficult to truly converge with others. Many network members feel the structure and budget of RECIPES limits convergence, making it difficult to initiate new ideas, projects, and collaborations while continuing to deliver on predefined expectations.

How much divergence is enough?

While there appears to be general consensus that divergence is an inherent element of convergence, there isn't consensus on how much is "enough." Some network members question whether there is enough diversity of people, perspectives, lived experiences, and disciplines within the RECIPES network to address the complexity of wasted food. Some feel that certain mindsets, disciplines, and methods dominate in the network and that there are insufficient opportunities or avenues for bringing in other or new perspectives.

Is convergence the goal itself or the means to the goal?

While NSF dictates the importance of convergence within our network and while some network members are interested in understanding it, they struggle with whether convergence is a goal (or the goal) itself or if it is a means (or the means) of achieving our goal. If convergence is a (or the) goal, is it on equal standing to addressing wasted food? If convergence is a (or the) process for achieving our goal, does it have to (and can it) be measured?

TIPS FOR ACHIEVING CONVERGENCE

Teams working to achieve convergence should:

- Prioritize and place equal value on every perspective.
- Understand that the frequency and ways in which team members contribute, as well as the frequency and ways in which different perspectives are represented, may ebb and flow as the work moves forward.
- Recognize that no one is an expert at all times and be open and willing to learn from one another.
- Include perspectives from the whole system or issue being examined.
- Create a psychologically and physically safe, open, and trusting environment to work within.

This can be achieved by:

- Allowing time for thorough discussion and decision-making.
- Striking a balance between in-person and virtual meetings to ensure quality connections, communication, collaboration, and outcomes.
- Listening and sharing generously. Stepping up to share your thoughts, as well as stepping back to allow others to provide input. If you notice certain team members tend not to share their thoughts, ask them for input directly in a kind and encouraging way.
- Avoiding interrupting team members or shutting down the ideas of others. Instead of saying, "No, but...", say, "Yes, and..."
- Deferring judgment and remaining open-minded.

- Recognizing that we all come from a diverse range of backgrounds, skillsets, and disciplines. Everyone has something to contribute, but each contribution may look different.
- Asking questions and recognizing that the only silly questions are the ones not asked.
- Ensuring those who are central to the issue or subject being explored are thoroughly included, even if they are not part of the research team (i.e. including input from community members).

Additional recommendations:

When starting a project or a new working relationship with an individual or team:

- Discuss the goals of your project and/or working relationship. What are you working to achieve together?
- Consider creating a list of community norms. What principles or mindsets are most important to keep in mind when working together?
- Discuss how you each work best and your availability to contribute (i.e., time of day, in-person or virtually, other personal and professional obligations, how you best receive feedback, etc.)
- Establish communication standards. Will you have a regular meeting cadence? Will you communicate via email, Slack, phone, and/or text?
- Decide how you will document your work and where it will be stored. Do you need to set up a shared, accessible space, like OneDrive, Google Drive, or Dropbox?



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