

The hitchhiker's guide to co-production: Six ways to link knowledge and action for sustainability

By directly linking research processes to change makers, co-production promises to create more impactful knowledge and actions. However, what co-production means in practice is not always clear or consistent. Drawing on the experiences of 32 co-production initiatives from around the world that aim to enhance sustainability, [Josephine Chambers](#), [Carina Wyborn](#), [Henrik Österblom](#), [Lakshmi Charli-Joseph](#), [Jessica Cockburn](#), [Rosemary Hill](#), [Ruth Brennan](#), [Chris Cvitanovic](#) and their many co-authors, present a scheme for understanding different kinds of co-production, and the different tradeoffs they entail. In so doing, they highlight 6 modes of co-production that emerge when particular design choices are made.

How can humanity address the vast sustainability challenges that we face? Today there is no shortage of ideas and recommendations. Yet, what do they actually do for society? In Douglas Adams' [The Hitchhiker's Guide to the Galaxy](#), a supercomputer is famously tasked with calculating the answer to the ultimate question of life, the Universe, and everything. After 7.5 million years, it answers "42". An answer of little use to anyone when the original question remains a mystery.

This metaphor is apt for the state of many academic disciplines: research churns out advice, yet often with poor connection to the world beyond academia, where progress is at best incremental. One response to this is "co-production" – processes that connect researchers and diverse societal actors to grow critical insights in ways that promise to spur direct action. Instead of a single lead researcher (or computer), co-production entails collaborative work to navigate often contrasting views regarding what questions matter, and how their exploration can generate societal change.

Co-production is widely applied to address sustainability challenges, and action is urgently needed. Yet, questions remain around the many proliferating concepts and methods that make up co-production. In response, our initial answer was also 42 – in this case, 42 scholar practitioners deeply engaged in co-production. Together, we mapped out commonalities and differences across 32 initiatives that designed to connect diverse sectors and sustainably develop ecosystems at local to global scales in six continents. We asked ourselves: How do our approaches differ? Why? What are the implications?

In our new study, ["Six modes of co-production for sustainability"](#), we share our collective insights via a heuristic tool designed to support diverse change agents – researchers, policy makers, activists, community leaders, and CEOs – to reflect on how they attempt to link diverse knowledge and action. The six modes we identify vary in their **purpose** for using co-production – to solve predefined problems, or to reframe problems; understanding of **power** – focusing on changing people's behaviour, or more systemic issues; approach to **politics** – empowering marginalized actors, or influencing powerful actors to yield power; and **pathways** to impact – by primarily producing scientific knowledge, or through more integrated forms of knowing, relating and doing. These differences influence the kinds of outcomes that are possible, as well as the critical risks they pose. Here we offer a brief tour of six such initiatives.

Six modes of co-production for sustainability

Co-production offers exciting possibilities to move beyond traditional silos of research and practice. Instead of research or society being mainly in the driving seat, both become active co-pilots of societal change by weaving together diverse knowledge and action. Here, we share our main approaches, their advantages, and unique risks.

Modes vary by purpose, power, politics, and pathways:



- 1 **Researching solutions**
Generating evidence that can inform or justify the approach of environmentally motivated decision-makers.
- 2 **Empowering voices**
Emphasizing process and more actively engaging with/in policy and management contexts to create direct impacts.
- 3 **Brokering power**
Engaging relatively powerful actors to develop long-term innovative institutions to reframe and address sustainability challenges.
- 4 **Reframing power**
Engaging relatively marginal and powerful actors to reframe technocratic narratives and policies that marginalize social concern.
- 5 **Navigating differences**
Building processes that prioritize connection, learning, empowerment, and institutions over producing/transferring scientific knowledge.
- 6 **Reframing agency**
Creating safe spaces to explore perceptions of agency to learn and build collective agency to address systematic governance issues.
- ? **Potential other modes**

Each mode poses unique challenges and risks:

- Status quo reinforced
- Unaddressed power relations
- Worsened inequalities
- Co-opted process
- Polarized conflict
- Echo chambers

A sustainable future for all



Chambers, J.M., et al. (2021). Six modes of co-production for sustainability. *Nature Sustainability*, DOI: 10.1038/s41893-021-00755-x

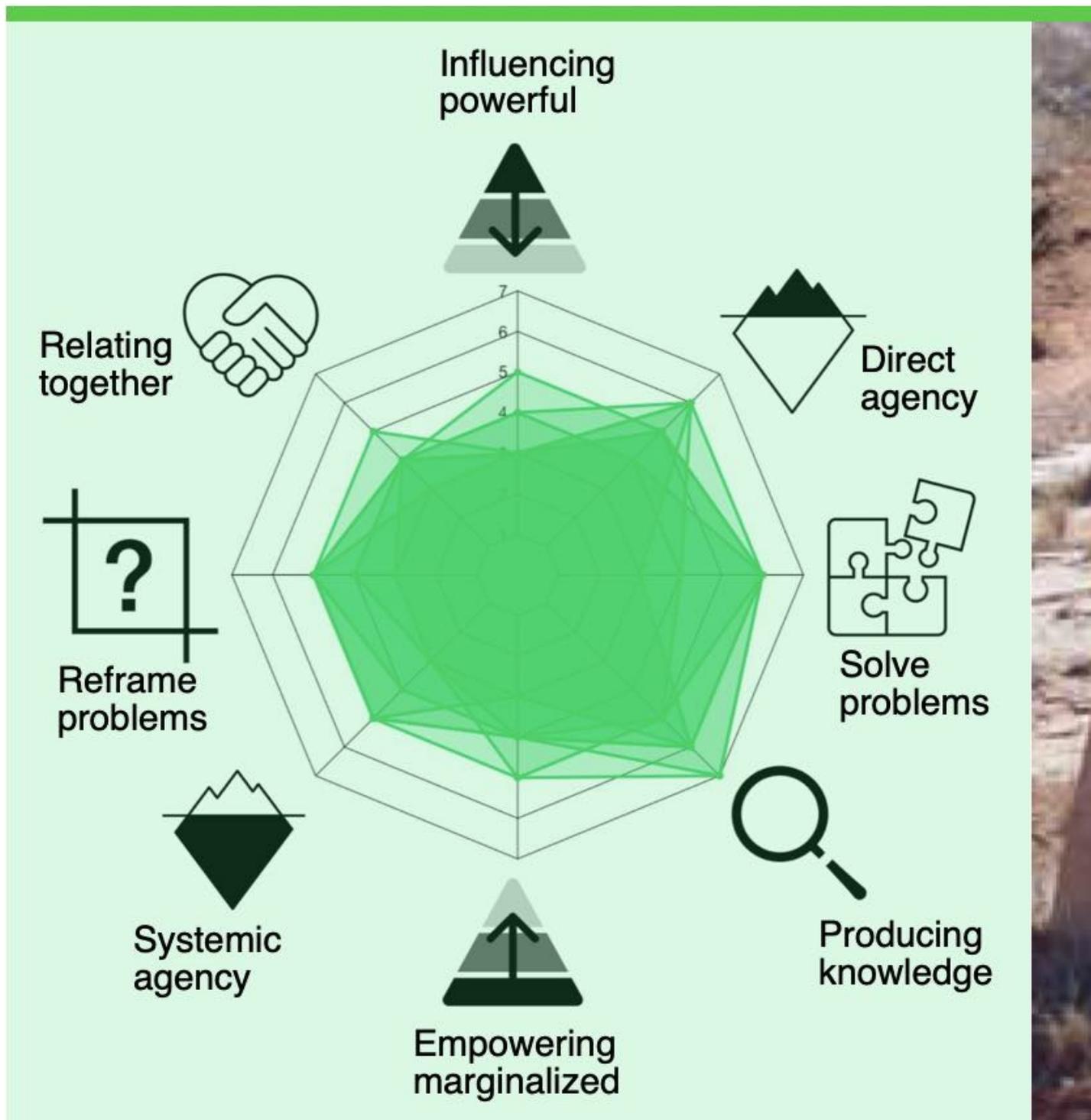
Graphic by Visual Knowledge 
www.visualknowledge.design

Mode 1. Researching solutions



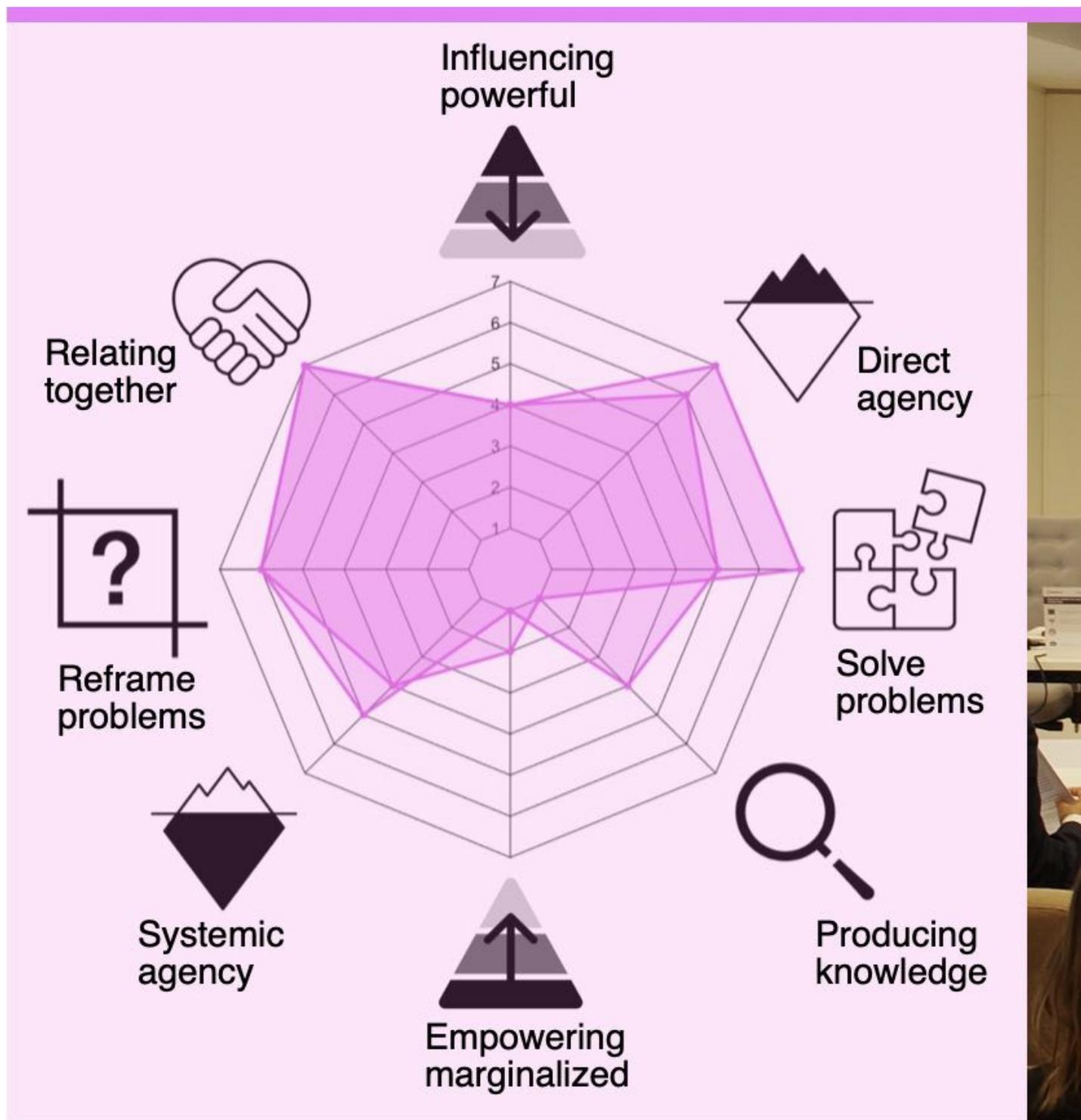
For over a decade, the Durban Research Action Partnership (D'RAP) has [built relationships between academics and local municipality officials](#) in the eThekweni Municipality (South Africa). The partnership has [co-produced knowledge to assist managers in the municipality](#) to make biodiversity conservation and climate adaptation decisions. While this mode supports environmental decision-making, it risks an over-emphasis on scientific knowledge at the expense of other knowledge forms (e.g. indigenous knowledge). Nonetheless, building new working relationships and increasing knowledge and capacities, are widely recognized as important outcomes for sustainability.

Mode 2. Empowering voices



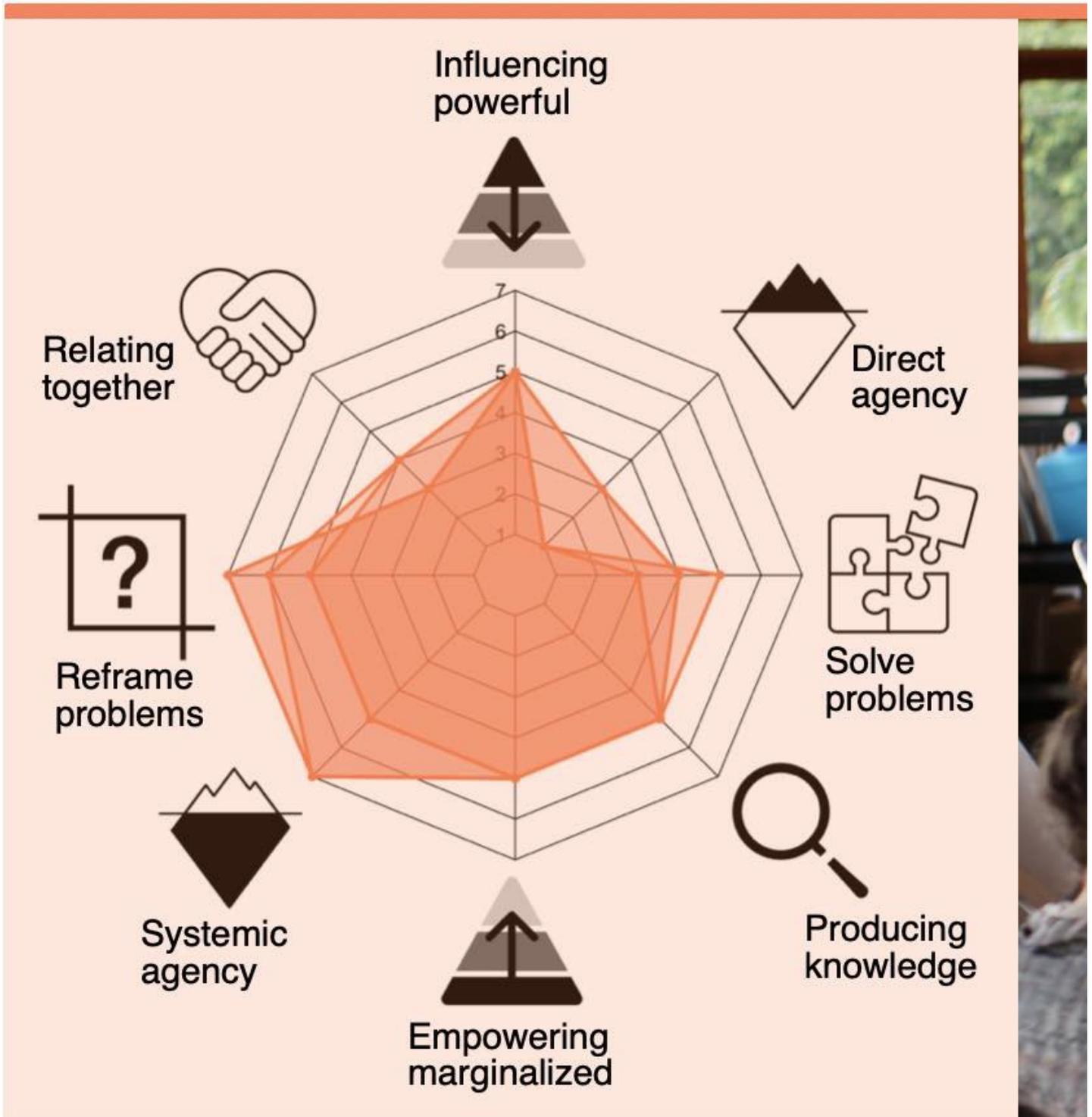
Indigenous peoples are highly exposed to climate change impacts. Yet adaptation plans frequently ignore both colonial contexts and Indigenous strengths, thereby increasing vulnerability. Ltyentye Apurte Rangers, the Central Land Council and researchers from Australia's national science agency CSIRO worked together to [empower Indigenous voices through a co-produced book on climate change in central Australia](#). The Rangers [presented this information in Arrernte \(the local Indigenous language\)](#) to local audiences who identified meaningful community solutions. They also identified neo-colonial policy settings that hinder implementation, highlighting how [new relationships between Indigenous peoples and nation-states that empower local decision-making and learning are vital for adaptation](#).

Mode 3. Brokering power



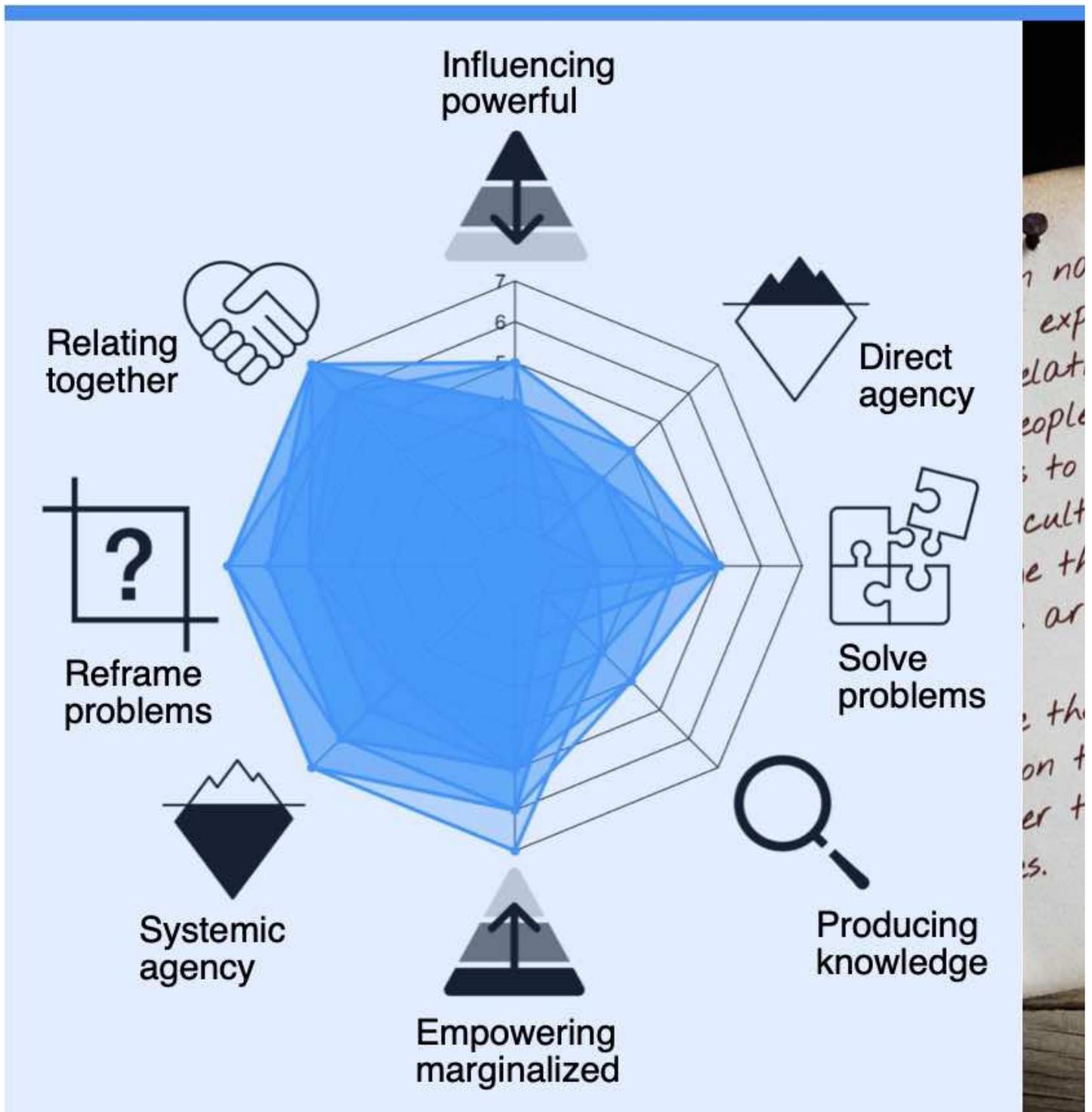
Seafood production is dominated by a few companies, or “[Keystone Actors](#)”. Scientists brought ten of these companies together for [a series of Keystone Dialogues](#) that resulted in the [Seafood Business for Ocean Stewardship \(SeaBOS\)](#) initiative. SeaBOS is a unique space for reframing ocean governance with CEOs who are powerful enough to influence norms and practice throughout the seafood production system. Activities include pre-competitive approaches for transparency and traceability, collaborative strategies for reducing antibiotics, plastics, and climate emissions, and advocacy for better regulations. Brokering power is challenging, but SeaBOS illustrates the importance of this mode for opening up new conversations and actions between scientists and powerful actors.

Mode 4. Reframing power



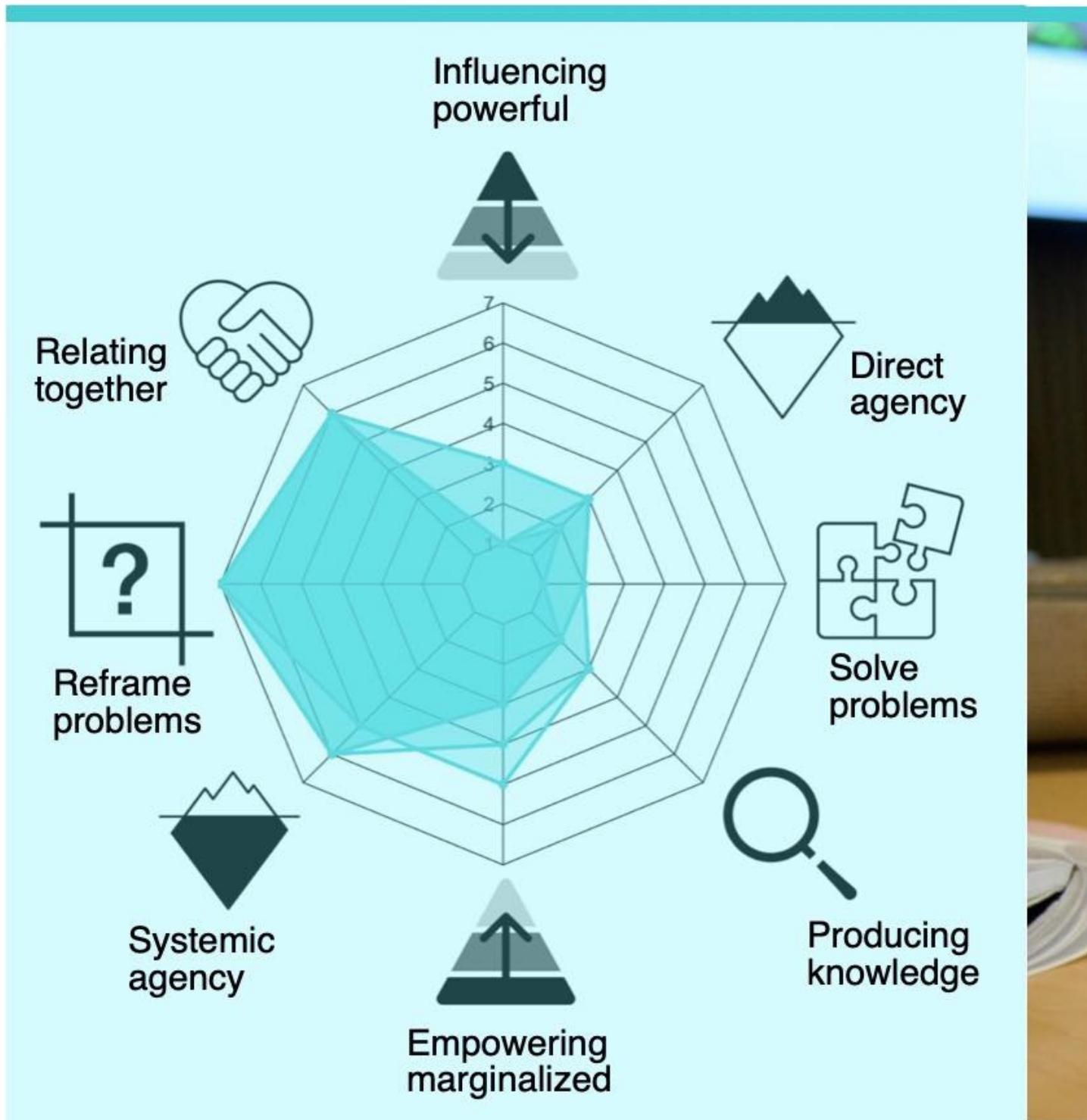
A multi-year process in Northern Peru brought NGO, government, community, and academic actors together to examine [why joint conservation and development projects often fail](#). A [regional dialogue](#) and subsequent organizational workshops explored problematic assumptions behind prevailing models, why they persisted, and opportunities for transformation. This mode explicitly brings knowledge capable of challenging power relations into policy and practice, but in doing so risks polarizing tensions and co-optation by vested interests. It is therefore crucial for this mode to build legitimate and safe spaces for critique, combined with inspiring opportunities to do things differently.

Mode 5. Navigating differences



In Scotland, [a protracted conflict between a small island community and the Scottish Government](#) was sparked by the creation of a marine protected area (MPA). A participatory mapping process created an [interactive, online, cultural map of the sea](#), revealing different ways of knowing the marine environment not visible or acknowledged within the marine policy environment where biological diversity was the focus. The recognition of rich and diverse cultural heritage and social relations bound up with marine biodiversity opened up possibilities for [the design of a community-led and government-supported co-management process](#).

Mode 6. Reframing agency



The [Transformation-Lab in the Xochimilco urban wetlands of Mexico City](#) was a 2.5-year process devised to enable collective agency for social-ecological transformation. [Diverse participatory methods](#) were used to create a safe-enough collaborative space where participants could question their own agency. This entailed [challenging dominant ways of viewing sustainability problems](#) and recognizing capacities to work together in new ways. A persistent challenge of this mode is to avoid echo chambers that fail to produce tangible action and change. Yet, this mode showed that it is essential to transform understandings to foster new connections and identify novel pathways forward.

The future of co-production for sustainability

Our study marks an ongoing shift – away from separate worlds of research and practice, and towards an understanding of the need to cross these artificial boundaries to achieve a more sustainable society. But this is not easy. We can no longer be passive hitchhikers. We must become active co-pilots charting novel paths together, often in unknown and uncomfortable spaces. One thing we are sure of is that the answer is not 42, nor a fixed menu of six modes. Sustainability requires exploration of diverse approaches that will generate new risks and new opportunities, and enabling institutions to navigate these trade-offs. Our empirical study offers insights from the real world. A willingness to listen, reflect, and learn together will help us share the responsibility and power of decision-making to ultimately advance societal change.

This post draws on the authors' published article, [Six modes of co-production for sustainability](#), published in Nature Sustainability.

Note: This article gives the views of the author, and not the position of the LSE Impact Blog, nor of the London School of Economics. Please review our [comments policy](#) if you have any concerns on posting a comment below

Image Credit: In text images reproduced with permission of the authors, infographic, featured image [TeeFarm](#) via Pixabay.
