Theory of change

The problem-focused starting point for transdisciplinary research is strongly paired with an action-orientation; that is, TD researchers are not just concerned with *understanding* complex societal or socio-ecological challenges (although that is usually a key component of TDR), they are also about *changing* or *improving* the problematic situation or issue. Conventional research approaches tend to make strong and often simplistic assumptions about change – that building new knowledge and publishing peer-reviewed papers will automatically generate change. But experience shows that this is rarely the case. Change processes are multi-faceted, political, and often face resistance from incumbent interests and powers.

Theory of change (ToC) is a structured approach to identifying the proposed causal links between a project or intervention and their goals, and unpacking the assumptions those involved make about how research will actually generate that change. ToC emerged from the development sector, where many well-intended projects were found to not lead to substantial gains in the areas they were intended to affect, ToC frameworks guide researchers and practitioners through a series of questions or considerations about how change is expected to happen. It is not a theory in the scientific sense; rather, theory of change is a process and framework for identifying participants' rationales for expected pathways to change. By engaging in structured conversations about expectations, ideas, and intentions for change, a TDR team can surface important and often diverse, implicit, or unspoken assumptions about how change happens. They can check those assumptions against others' experiences and develop a shared vision, understanding of causality, and more sophisticated strategies and mechanisms that can be fostered for the best opportunity for positive actions.

While there are many variations, a typical project-based ToC approach will include:

1. Establishing a shared vision for the intended and desired change (the end point).
2. Reflecting on the time, energy, resource inputs for a project (the starting point).
3. Specifying the activities of the TDR that will generate outputs and the logical, causal links among inputs, activities, and outputs.
4. Considering how outputs will lead to outcomes, and whether these outcomes logically follow.
5. Establishing the rationale for how outcomes are contributing to the realization of the vision.

ToC processes are best done as a team process and can include societal actors even if they are not part of the immediate project team. At every step of the process, the team needs to identify significant assumptions and assess their plausibility. As a team process, ToC can clarify the scale or extent of intended change (is it incremental, adaptive, transformative?), test the robustness of the logic underpinning how the planned activities will support that change (does the project need to do more to engage influential actors in the system?), assess any preconditions that may need to be in place to achieve change (are assumptions reasonable?), and be used to reflect on the effectiveness

of strategies or need for adjustment as more information or experience is gained through the project (are assumptions confirmed or disproven as the project continues?). By documenting the assumptions about change early in a TDR project, the ToC framework can help teams quickly identify when assumptions are proved wrong, unintended outcomes emerge, or circumstances change.

There are many variations on the theme of ToC, including tools such as Impact Pathways or LogFrame approaches. The key difference with ToC is often the emphasis on surfacing the underlying assumptions and using the ToC as a collaborative, reflective tool throughout a project. Effective ToC processes cannot guarantee the realization of a project's vision for change but can aid in developing more strategic actions to support change, and can facilitate reflection and learning both within and across TDR projects.

Further reading:

- Belcher, Brian M., Rachel Davel, and Rachel Claus. 2020. A Refined Method for Theory-Based Evaluation of the Societal Impacts of Research. *MethodsX 7* (100788): 100788.

- Clark, Helene. 2021. Theory of Change in a nutshell. Integration and Implementation Insights. August 24, 2021.