

Foundations of Evaluation for Planetary Health

Astrid Brousselle



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Abstract

Foundations of Evaluation for Planetary Health offers a comprehensive framework for reimagining evaluation in the context of polycrises. Grounded in the 2024 Earth Day Evaluation Declaration, the book integrates planetary health lenses across all major evaluation questions and steps, from logic models to logic analysis, effect analysis, and implementation analysis, economic evaluation, needs assessment, and monitoring. By embedding planetary health perspectives into mainstream evaluation methodologies, this textbook equips researchers, evaluators, and policymakers with theoretical foundations and practical tools to address environmental and social interdependence in the Anthropocene.

Key words: evaluation, methodology, methods, Anthropocene, planetary health, evaluation theory.

Acknowledgements

Writing a book is the result of many discussions, readings, and reflections. It is the culmination of a long journey involving encounters with a wide range of people, each planting a seed that helped shape the ideas presented here. To everyone who has been part of this long and winding journey, please know how immensely grateful I am to have had the privilege of sharing a piece of life with you.

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diverse, multidisciplinary group of faculty members committed to engaging the University of Victoria and its broader communities on socio-environmental challenges.

I am also grateful to my early mentors, supervisors, and collaborators who shaped my intellectual frameworks when I was a student, including François Champagne, André-Pierre Contandriopoulos, Zulmira Hartz, and Louise Potvin. I extend my thanks to those who have supported me throughout my career, including colleagues from the Université de Sherbrooke and the Centre de recherche de l'Hôpital Charles-Lemoyne, as well as Elliot Stern and Jonny Morell, long-time editors of *Evaluation: The International Journal of Theory, Research and Practice* and *Program Planning and Evaluation*, who have believed in my work throughout this journey.

Finally, I am endlessly grateful to my family, friends, and fellow musicians, whose presence brings me joy and strength every day.

About the Authors

We acknowledge and respect the many Indigenous Peoples and Nations living on Mother Earth. We acknowledge and respect the Coast Salish Peoples on whose territory we live, and the Lək'wəḡən, W̱SÁNEĆ, Scia'new and T'Sou-ke Peoples whose historical relationships with the land continue to this day.

Astrid Brousselle

I was born in France, lived in Paris from the age of eight, and moved to Canada when I was 18 years old. I spent most of my life in Canada. I hold a bachelor's degree in economics, a master's in health administration, and a PhD in public health from the Université de Montréal. During my Ph.D., I conducted an implementation analysis of the UNAIDS initiative for access to HIV/AIDS drugs in Chile. After completing my Ph.D. under the supervision of François Champagne, an expert in evaluation, and Gilles Bibeau, an anthropologist, I deepened my knowledge and practice of evaluation approaches and methods as a postdoctoral fellow at McGill University under the supervision of Céline Mercier.

Between 2005 and 2010, I held a research position in the Department of Health Administration at the Université de Montréal. In 2010, I began a research position at the Université de Sherbrooke, where I held a Canada Research Chair in Evaluation and Health System Improvement. The goal of the chair was to leverage the evaluation process to influence the situation or intervention being studied. At the end of 2017, I moved to Victoria (British Columbia, Canada) as the Director of the School of Public Administration at the University of Victoria, where I served a five-year term. Between 2015 and 2019, I was the French editor of *The Canadian Journal of Program Evaluation/Revue canadienne d'évaluation de programme*, and I served on the editorial board of *Evaluation and Program Planning* for many years. I am currently the Editor-in-Chief of *The Canadian Journal of Program Evaluation/Revue canadienne d'évaluation de programme*.

Throughout my career, I have experimented with various evaluation approaches in diverse contexts, reflecting on their strengths and limitations. I have worked extensively with participatory approaches and have found that, while they work well in some contexts, they are less effective in polarized settings. This led me to explore other approaches better suited to these contexts. I have also conducted various economic evaluations and explored innovative approaches in this field. Additionally, I have developed and applied theory-based approaches to evaluation. Recently, I became interested in the concept of post-truth. I am deeply grateful to have worked with many students who share a passion for evaluation, applying a variety of approaches in their dissertations, theses, and projects.

Since 2015, my focus has shifted to the socio-ecological transition. I could not continue working on the healthcare system while witnessing the devastating impacts of climate change and other environmental crises on both human beings and other species. This realization led me to develop new frameworks and approaches in evaluation, aiming to support transformative practices that contribute to healthy and sustainable living environments.

As both a human being and a researcher, I uphold the values of integrity, decolonization, equity, diversity, sustainability, democracy, and engagement. I strongly believe that a different world must be created, one that respects the human rights of all, worldwide, and that celebrates the richness of diverse cultures. A unifying element across these values and agendas is the fundamental importance of relationships with nature, human beings, and all forms of life.

Evaluation for planetary health acknowledges the importance of nurturing positive relationships in all that we do and serves as an invitation to create systems in which all can thrive.

Kai Mountfort

Kai holds a Master of Public Administration, a Bachelor of Science (Biology and Earth & Ocean Sciences), and a Diploma in Business Administration, all from the University of Victoria. His academic pursuits included a directed study on Chinook salmon population dynamics and a thesis on planetary health evaluation of the District of Sooke's Official Community Plan.

His professional journey began with co-op placements at the Canadian Wildlife Service, followed by a role as a wildlife biologist, where he contributed to biodiversity conservation programs and developed guidelines for Indigenous conservation requests. Transitioning to

About the Authors

the Government of BC, Kai now serves as a conservation policy analyst, focusing on wetland protection, regulatory amendments, and Indigenous capacity funding.

Dedicated to protecting Earth's habitability, Kai is driven to make an impact on biodiversity and climate change through policy and advocacy. He lives in Sooke, BC, with his family on the traditional unceded territories of the T'sou-ke Nation and the Scia'new Nation. He is actively involved in the local agricultural community and enjoys outdoor activities, envisioning a future off-grid homestead.

Invitation

Dear Reader,

If you are an evaluator fluent in a language other than English or French, and passionate about building a more sustainable and equitable world, I invite you to consider translating this book. By bringing these ideas to new audiences, you can help amplify their impact and foster meaningful change.

If this project resonates with you, please reach out. I would be honored to explore this collaboration with you.

Thank you for your dedication to positive change.

Warm regards,

Astrid Brousselle



Prologue: The Hummingbird Fable

Prologue

Let me conclude with a little story [...] I know you are very well informed, and you probably think, what can we do? I like to tell the story of the Hummingbird because, quite often, we feel overwhelmed.

This story of the hummingbird which I learnt from Japan, is the story of a forest that caught fire. And it was a huge fire. It was raging.

All the animals came out of the forest and stood by the edge of the forest. And they were watching the fire. They were very overwhelmed, they felt powerless, they felt like there was nothing they could do, because the problem was too much for them.

Except this little hummingbird. The hummingbird said: "I am going to do something about the fire."

So, it flew to the nearest stream, took a drop of water, flew back and put it on the fire. Then, back again. It brought another drop of water and put it on the fire. And it kept going as fast as it could. Every time, bringing a drop of water and putting it on the fire!

In the meantime, all the animals are discouraging it, persuading it not to bother because it is too little. "You have a beak that is too little, you are bringing very little water!" And some of the animals that are talking like that are the elephants with big trunks which could bring much more water! But the hummingbird just kept doing what it knew best, without wasting any time.

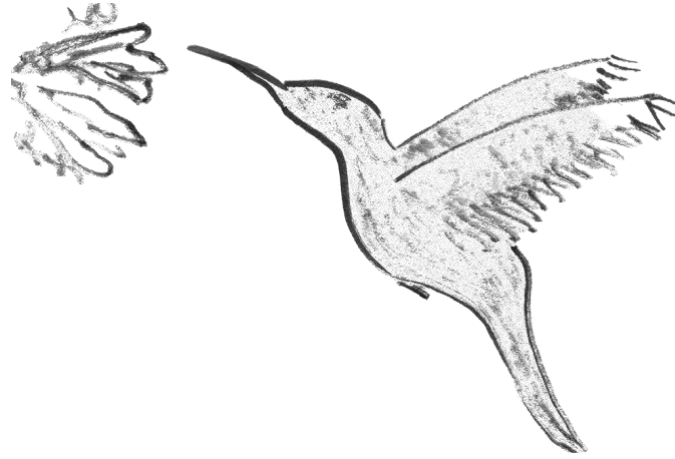
And, to stop them when they said: "What do you think you are doing?"

The hummingbird said: "I am doing the best I can."

For me, and I hope for you, that's all we can do! Whoever we are, whatever we are, there is something in our lives that we can do, no matter how small it is. Collectively, it will make a difference! So, be a hummingbird in your community, wherever you are!

Words from Wangari Maathai, shared during a talk supported by the Botanic Gardens Conservation International (BGCI), on March 12, 2007 (<https://www.youtube.com/watch?v=fHtFM1XEXas>).

Wangari Maathai was a Kenyan activist. She founded the Green Belt Movement, an environmental NGO dedicated to tree planting, conservation, and promoting women's rights. In 2004, she received the Nobel Peace Prize.



Introduction

June 8, 2023. I have just started writing this book. This morning, as every day, I read the news. Fires are raging in Canada. More than 400 fires are active from the west coast to the east coast. People are displaced from their homes, and their communities are at risk of being burnt down. The newspaper I am reading tells us that the overall area burning is already 15 times the annual average, and we are still early in the fire season. Firefighters are arriving from South Africa (yes, South Africa!) and France. Air quality has declined dramatically in many regions, well beyond the fire areas; New York is experiencing its worst air quality in 20-25 years.

In the same newspaper a news article reports on the heatwave occurring in Bangladesh, the longest of the last 50 years. Thousands of schools are closed. Electricity production (coal fired) needs to be reduced because of air pollution. Those who are most vulnerable face the greatest exposure and impact. Another article, same newspaper: Oceans have experienced the warmest month of May ever recorded. We can expect cascading effects such as an acceleration of melting ice, increased sea levels, ocean acidification, decreased capacity of the oceans to absorb CO₂. And this year, with El Niño, scientists are already predicting droughts and extreme weather events. Environmental news is getting worse each year, and it is hard to stay hopeful.

Solutions exist to positively impact the environment and to maintain the conditions for all species to thrive. They are technological, social, legal, economic, cultural, and they exist across all sectors: transportation, food systems, waste, land management, etc. Furthermore, solutions exist at all levels: from individual, community, regional, nation state to multi-state. However, despite our knowledge of the existence of solutions and continual and starker warnings from scientists, climate advocates, and land defenders, we observe a disturbing inertia. We are so far from the transformational change we need.

As climate change accelerates, adaptation measures will be more necessary. This fact doesn't alleviate the need to simultaneously implement deep resiliency and mitigation measures. We need more than mitigation given the state of environmental degradation. We need positive action: projects, programs, and policies that have positive impacts, environmentally and socially, and contribute to healthier and more equitable societies, while protecting, restoring, and regenerating local environments.

The response we need to the current challenges requires a real transformation in the way we organize our societies. All activities should contribute to this transformation. The status quo is harmful and no longer desirable. To stop harming the environment and the living conditions of humans and other living species we need to reenvision everything we do. In fact, we need to contribute to protecting health and the environment, promoting well-being, restoring land, air, and water. For these outcomes, we need to stop thinking in silos, isolating each action from its context, and instead, consider all actions in their environmental and social contexts. We need restorative system thinking in everything we do.

Implementing such a transformation necessarily involves drastically disrupting existing societal power structures. Those with powerful interests in the status quo will not allow for a smooth transformation. In particular, industries profiting from extracting, distributing, and marketing fossil fuel energy are the most threatened. Even if other sectors benefit from a socio-ecological transition, fuel-related industrial actors will resist this change as strongly as they can. We are observing this resistance with the implementation of insidious propaganda and lobbying strategies, also called post-truth, at many levels: from strategic use of social media, manipulation and polarization of public opinion, establishment of strong coalitions, funding of political parties, think-tank groups, and pseudo research institutes, etc. (Brousselle, 2024). As the 2023 fires are raging in Canada, disinformation videos are popping up on social media and attributing fires to ecoterrorists and the government. Not surprisingly, this is happening when fires are raising awareness on the importance of urgent climate action. Post-truth tactics are being implemented to discredit climate action advocates and governments to weaken potential mobilization. Post-truth strategies seem to target topics with a potential for changing the existing balance of power.

In the coming years, the context evaluators will navigate will be a complex and changing one with many challenges: large-scale disinformation, distrust in public institutions, environmental disasters, increasing socio-economic inequities, and increased social and environmental injustices. Evaluators working on issues with high transformational potential will be more exposed than others to polarized contexts. However, all evaluators need to understand this broader context to position themselves to make a difference.

Evaluation can be defined as an engaging process that combines different, complementary inquiry approaches to support decision-making while contributing to sense-making, value creation, positive ecosystems, and social change. Evaluation aims at providing credible information to make informed and socially accepted decisions about products, projects, programs, and policies – what we will call *interventions* in this book. Evaluation can help align interventions with community needs, support evidence-informed design of interventions, provide information on what works and what doesn't according to the context, inform on the larger impacts of interventions, support informed decision-making on allocation of resources, and monitor progress.

Current evaluation approaches often take the broader social and environmental context for granted. It stays in the background in part because it is easier methodologically to treat it that way, when this context is the most important determinant for human survival and well-being. As we need to collectively respond to many embedded crises we also need to reconsider the way we design and practice evaluation to consider the reciprocal and interrelated nature of the relationships between living beings and the elements and to acknowledge that the future rests on a positive ecosystem that allows all forms of life to flourish (Brousselle et al., 2024a; Brousselle et al., 2024b).

2024. The evaluation community adopted the Earth Day Evaluation Declaration 2024 and published it as a petition (see <https://www.change.org/p/incorporate-environmental-sustainability-in-evaluations>). The model proposed in this book closely aligns with the values and commitments articulated in the declaration.

Earth Day Evaluation Declaration 2024

Promoting Environmental, Social and Economic Sustainability and Regeneration Criteria in Evaluations.

Evaluators' Role

Given the overwhelming evidence that climate emergency, loss of biodiversity, soil degradation, and pollution of water, air, and land threaten the future of humanity and all life on Earth...

We commit to introducing context-specific criteria for environmental, social, and economic sustainability and regeneration into all evaluations recognizing that these three domains are intertwined.

Role of Commissioners of Evaluation

We call on those who commission, fund, and use evaluations to include and support context-specific criteria for environmental, social, and economic sustainability and regeneration in all evaluations; and engage a wide range of researchers and scientists in the evaluation teams.

Elaboration, Implications, and Implementation Guidance

Scope. Taking the polycrisis seriously means including appropriate and relevant sustainability and regeneration criteria in all approaches to evaluation for all types of interventions and change efforts, and across all sectors – public, private, nongovernmental, academic – in whatever ways are relevant and feasible.

Level. The universality of the multi-faceted environmental and related crises means developing and applying context-specific environmental, social, and economic sustainability and regeneration criteria at all levels, local and indigenous, regional and national, Global North and Global South, international and global, within formal institutions and informal networks, and in so doing, take into account the mutually reinforcing interrelationships across levels.

Interconnectedness. We reiterate the interconnectedness of environmental, social, economic, political, and cultural systems. Our focus is on the mutually reinforcing and dynamic interrelationships among environmental sustainability and regeneration, equitable, inclusive, and resilient social systems, and economic justice to make clear that these are not conflicting ideals to be pitted against each other but rather interdependent systems that need to be recognized, examined, understood, and evaluated together.

Values undergirding the criteria.

- *Environmental sustainability and regeneration* is based on valuing nature, humanity, and all life forms as interdependent. This leads to valuing and supporting restoration, mitigation and adaptation initiatives to significantly reduce greenhouse gases, end pollution of air, land, and water, restore and protect ecological biodiversity, such as restoring endangered ecosystems and degraded soils, forests and other systems, and increase the resilience of human and natural systems.
- *Social sustainability* includes reducing inequities and disparities consistent with the Sustainable Development Goals and inclusive and democratic governance processes and institutional arrangements that are genuinely diverse and inclusive, including gender equity and upholding the rights of Indigenous peoples, and with capacity to effectively initiate and ensure effective action based on principles of environmental justice that respect and strengthen community voices.
- *Economic sustainability* includes living within the limits of the Earth's resources while meeting the basic needs of all, where everyone has enough, and no one has far too much.

Nexus perspective. Evaluating at the nexus where environmental, social, and economic actions interconnect and intertwine means applying a complex systems framework in evaluation, seeking restorative and regenerative solutions that endure resiliently, and documenting both positive and negative patterns, intended and unintended, and planned, adapted, and emergent pathways toward transformation.

Context. Sustainability-inclusive evaluations include recognition of the historical patterns of exploitation, extraction, expropriation, colonialism, oppression, human dominance over nature, and greed that have created the climate crisis.

Uses. Evaluation for sustainability and regeneration should be designed and implemented to improve and enhance sustainability-inclusive initiatives, support informed, strategic and democratic decision-making through processes and procedures that are fair and just, and strengthen community voice in evaluations and interventions To do so, sustainability-inclusive evaluations will build and facilitate

collaborations with those who commission, fund, implement, and are meant to benefit from evaluation processes and results.

Role and responsibility. All evaluators have a responsibility to bring this commitment to sustainable, regenerative, and restorative evaluation criteria into their work and be able to explain to stakeholders that these criteria constitute a statement of evaluators' professional and ethical responsibility, thereby advocating on behalf of inclusion of these criteria in an appropriate way and doing as much as is practically feasible given constraints of capacity, resources, and context.

Transformation. In affirming this Declaration, we recognize that the challenges confronting our world - energy, environment, climate change, food security, financial security, human security, sustainability for all forms of life - demand solutions beyond what traditional evaluation methods can comprehensively assess. Evaluating systems transformation initiatives through a multi-dimensional and cross-levels sustainability lens will require innovative and inclusive evaluation approaches grounded in, engaged with, and responsive to multiple perspectives.

Commitment. Our shared commitment is to ensure that evaluation is part of the solution going forward and not part of the problem, and that in addressing environmental, social and economic sustainability and regeneration, evaluation makes meaningful, substantive, timely, rigorous, feasible, and useful contributions to a more equitable and sustainable future.

June 20, 2025. I have just finished writing the last chapter of this book. And I can't help but ask—have we moved closer to a better, more just and sustainable society in the past two years? Around the world, war is a brutal and daily reality. Countries are once again investing in armaments, and we are witnessing an escalation of violence and suffering. Dangerous leaders are in power. Many governments are taking this situation as an excuse to roll back climate commitments. Extractive industries are celebrating again, as governments race to secure essential minerals and once again prioritize economic growth over other agendas.

More than ever, solidarity and mobilization are needed. Over the past two years, evaluators from all places and cultures have been committing to taking a clear stance on social and environmental betterment. Seeds of change are being planted across the planet! None of us can make a difference alone but, together, we can contribute to meaningful social change.

With this book, I hope to provide guidance for evaluators designing evaluation projects which will contribute positively to planetary health, considering the importance and embedded relations of natural and human systems. Ceasing harmful actions is an urgent moral obligation and implementing positive and regenerative solutions is part of this restoration

and healing project. I hope this book will inspire evaluators willing to contribute to positive changes for their organizations and communities, by addressing the many challenges human beings are facing and contributing to creating better societies.

This book is the result of a decade of reflection and research, and of two decades of teaching and practicing evaluation. It offers an evaluation model based on the premise that planetary health must be our core goal. The model presented in this book is largely inspired by, yet very different from, the model taught at the University of Montreal which was published as a textbook first in French (Brousselle et al., 2011b) and translated into Portuguese (Brousselle et al., 2011a). Furthermore, many of my published articles are used as the foundation for chapters. This book introduces ways to practice evaluation that are adapted for our times, to contribute positively to planetary health.

Written in short chapters, this book was intentional in its effort to meet several objectives:

- To offer a coherent approach to evaluation adapted to the Anthropocene era. The book presents evaluation questions, concepts and methodologies as an integrated model and not as piecemeal suggestions.
- To teach newcomers to the field of evaluation approaches and methodologies adapted for our times. After working for years on planetary health, I kept asking myself, “how would I teach a foundations course in evaluation now that I think a planetary health lens should be applied to all we do?” This book is the answer. It starts by defining the current context and planetary health. Then it provides guidance on evaluative steps, concepts, questions and methodologies. Readers are then guided through the process of defining and representing the intervention, and explore evaluation questions, in particular logic analysis, effects analysis, implementation analysis, economic evaluations, needs assessment, and monitoring. The book won’t provide deep guidance and knowledge on methodologies and methods; this can be found elsewhere. The evaluation field is a dynamic, multidisciplinary domain. Many textbooks already exist. I assume evaluators are curious and they will dig further to complement their knowledge and skills by reading other textbooks and articles.
- To provide guidance to seasoned evaluators seeking to change their practice to contribute to planetary health.

I hope this book will resonate with what experienced evaluators already know, and, coupled with their moral and ethical stance, provide guidance on how to practice evaluation that will make a difference in this 21st century context. With this book, I want to create a space for the development of approaches and tools for evaluating interventions that consider what matters the most, including determinants of health and well-being for all, with particular attention to the challenges posed by the current post-truth era. After reading and working with this book, evaluators should feel that they can be game changers and contribute positively to the survival and well-being of all species on our planet.

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1. Context Matters: Evaluation in the 21st Century

Reasoning is the only ability that makes it possible for humans to rule the earth and to ruin it. All other alleged distinction between us and other life forms on the planet turn out to be illusory. (Scriven, 1976, p. 2)

Highlights

- **Context matters:** It plays a crucial role in shaping the process and outcomes of evaluations, and the impacts of interventions. However, it is often overlooked in evaluations.
- **Understanding contextual dynamics enhances evaluators' effectiveness:** By considering the context, evaluators can be more strategic and impactful in their projects.
- **Local cultural context and history are important as well:** Showing respect for local peoples and cultures, and supporting self-determination and empowerment, should be central to all evaluation projects.
- **Context provides opportunities to reduce risks:** A well-understood context and of the planetary health determinants helps minimize potential negative outcomes and enhances positive impacts on both natural and human environments.
- **Context is volatile:** Evaluators need to stay aware of the changing contextual dimensions to adapt their projects accordingly.

Introduction

Evaluation has always been a dynamic field that changes according to the big questions and challenges of the time. The current context calls for different evaluation practices that will directly address what matters the most in the 21st century.

Being an evaluator in the 21st century requires practicing evaluation differently from mainstream approaches that focus on interventions and treat the context secondarily. Because of the urgent need to restore or implement environmental, social, cultural, and political conditions that allow all species, including humans, to thrive, evaluators are now challenged to become moral agents in their practice. As this work involves a meaningful societal transformation, the current balance of power will inevitably be affected; some powerful people have a lot to lose and are leading a fierce resistance.

Therefore, for evaluators to have a positive influence they need to understand the socio-political context they are working within and the main determinants of planetary health. The following sections of this Chapter present the context's characteristics and describe the dimensions of planetary health that matter the most for creating and sustaining the conditions for all species and human beings to thrive.

Environmental and Social Depletion

We are living in a time when many species' survival and health, including ours, are threatened by numerous connected, simultaneous crises. We are observing the extinction of living species. One million animal species are threatened with extinction, and simultaneously populations of other species—mammals, birds, fish, reptiles, and amphibians—have decreased (World Wild Fund for Nature, 2022). As indicated in the report by World Wild Fund for Nature (2022), monitored wildlife populations have decreased an average of 69% since 1970, the equivalent of 27 football fields of forest is disappearing every minute. At the same time, the global climate is warming due to greenhouse gas emissions. The year 2024 started with heartbreaking news about climate warming: we have reached and are surpassing the original 2030 Paris Agreement target of 1.5°C above pre-industrial level (Hansen et al., 2023; McCulloch et al., 2024). Every year extreme climate events happen with increased frequency and intensity in different regions of the world: heavy rain and floodings, heatwaves, droughts, fires, cyclones, etc. These disruptions put ecosystems under increased pressure and increase risks for biodiversity, and human beings' safety and well-being (IPCC, 2018). Collectively we are not doing enough or acting quickly enough to maintain a safe environment for all species.

Simultaneously, pollution is currently the top cause of premature human mortality. Pollution is impacting many lands, waters, and living species. Each year, nine million premature deaths are attributable to pollution, over 90% of which occur in low to middle-income countries (Fuller et al., 2022).

Over the past two decades, deaths caused by the modern forms of pollution (eg, ambient air pollution and toxic chemical pollution) have increased by 66%, driven by industrialisation, uncontrolled urbanisation, population growth, fossil fuel combustion, and an absence of adequate national or international chemical policy. (Fuller et al., 2022, p. e535)

Loss of biodiversity, climate change, and pollution are major environmental challenges we need to address. It is not an option; it is a question of survival.

Not everyone faces the same risks or is exposed to risks in the same way. Climate change is increasing risks to food access, security, and water supply, among other concerns (IPCC, 2022). These new pressures on local conditions have consequences for population health and displacement (IPCC, 2022). People most at risk are also those with less capacity to protect themselves; further, people living off of the land and oceans, as farmers, fishers, Indigenous people in coastal and remote communities, are the most threatened (Baier & Brown, 2019).

Approximately 3.3 to 3.6 billion people live in contexts that are highly vulnerable to climate change [...] Regions and people with considerable development constraints have high vulnerability to climatic hazards (high confidence). Global hotspots of high human vulnerability are found particularly in West-, Central- and East Africa, South Asia, Central and South America, Small Island Developing States and the Arctic (high confidence). Vulnerability is higher in locations with poverty, governance challenges and limited access to basic services and resources, violent conflict and high levels of climate-sensitive livelihoods (e.g., smallholder farmers, pastoralists, fishing communities) (high confidence). Between 2010–2020, human mortality from floods, droughts and storms was 15 times higher in highly vulnerable regions, compared to regions with very low vulnerability (high confidence). Vulnerability at different spatial levels is exacerbated by inequity and marginalization linked to gender, ethnicity, low income or combinations thereof (high confidence), especially for many Indigenous Peoples and local communities (high confidence). Present development challenges causing high vulnerability are influenced by historical and ongoing patterns of inequity such as colonialism, especially for many Indigenous Peoples and local communities (high confidence). (IPCC, 2022, p. 12)

These disproportionate risks, locally and globally, increase social and health inequities, which increase the burden on already more vulnerable communities (Brousselle & McDavid, 2020). Paradoxically, the richest 10% of the world's population, based on consumption, have been responsible for about half of the cumulative carbon emissions between 1990 and 2015, while the poorest 50% have been responsible for just 7% of cumulative emissions (Gore et al., 2020). The communities at greatest risk are those that have contributed the least to greenhouse gas emissions (IPCC, 2022). These environmental injustices are also entrenched in a long-standing system of exploitation of human and natural resources, sadly illustrated—among other forms of current economic control and domination—by the colonization system established by European countries (Hickel, 2017; Nesmith et al., 2021; van den Berg et al., 2022; Whyte, 2019).

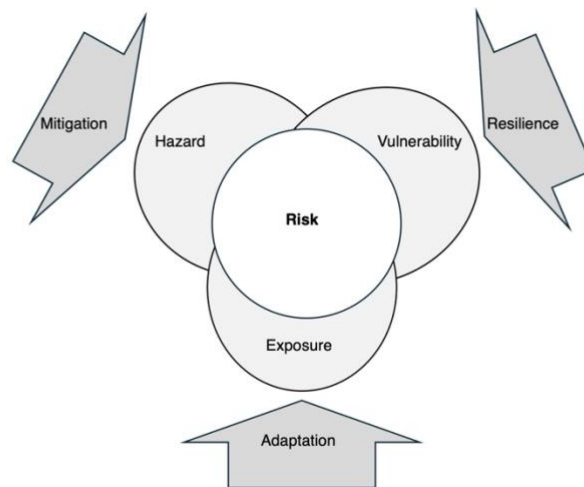
Human and environmental crises are embedded and interrelated, and they can't be considered separately. Furthermore, time is an issue. The unwillingness to tackle these existential crises creates greater risks over time – dangers of crossing critical thresholds that trigger irreversible consequences.

Evaluators need to consider this context from two related perspectives: programmatic and political. Programmatically, if we want to contribute to stopping social and environmental degradation and contribute to regenerating our systems, we need to understand what risks exist so we can reduce them as much as we can. Understanding risks entails adopting a planetary health approach in everything we do. One where we try to implement positive practices of healing and regeneration (Wahl, 2016) to restore land, air, and water and repair social relationships to create thriving environments. Politically, evaluators need to understand the contextual dynamics of their practice, which include cultural frames; patterns of belief and representations, institutions and organizations; and governance structures and processes. Embedded in the political context are power dynamics that will influence the entire evaluation process. To be relevant, evaluation needs to be conducted in a culturally responsive manner that acknowledges and respects systems of beliefs. Fundamentally, it also needs to give voice to scientific evidence in a polarized world with increasing distrust (Brousselle, 2024).

Reducing Risks

Risk exists when there is a conjunction of three elements: hazard, exposure to this hazard, and vulnerability (see Figure 1.1).

Figure 1.1 *Understanding Risk*



Source: Brousselle, A., Kennedy, C., & Brunet-Jailly, E. (2020). More crises to come: managing risk and fostering resilience with COVID-19 pandemic recovery. *Canadian Public Administration/ Administration Publique du Canada*, 63(3), 391-408. <https://doi.org/10.1111/capa.12388>

To reduce risks, one can target any of these three elements. For example, the appearance of COVID-19 created a new hazard. However, to experience the risk associated with infection, one needed to be exposed to the virus and to have some vulnerability to the infection. Vaccines reduced vulnerability, while masks reduced the exposure to the virus.

In the case of climate change, mitigation efforts aim to reduce hazards. For example, to lessen risks related to climate change, we need to reduce greenhouse gas emissions. Adaptation measures, on the other hand, aim to reduce exposure. Reducing risks attributable to climate change can include protecting communities from fires, drought, and flooding. To reduce vulnerability, one needs to increase resilience which can be community resilience and population resilience. Community resilience is about sustaining the needs of communities during emergencies and recognizing the importance of key sectors—like food, water, energy, and production capacity—that we depend on more heavily in crisis situations (Brousselle et al., 2020). Building population resilience requires addressing inequalities to protect health at the population level (Brousselle et al., 2020).

Studies on resilience in countries experiencing economic crises have observed better population health outcomes when governments invested in social support rather than cutting budgets as recommended by international financial organizations (Karanikolos et al., 2013; Stuckler & Basu, 2013; Stuckler et al., 2009). Foundational writings in public health show that equity and social support matter for health. Even if causes of death change over time, a gradient of mortality persists, explained mainly by social status and inequities (Evans, 1994; Black et al., 1980). Policies that reduce social inequities will have a positive impact on population health. Greve's work on happiness shows that countries with fewer social disparities also demonstrate greater happiness scores (Greve, 2012). Altogether, these writings show that, when basic needs are met, what matters most to increase happiness, health, and resilience is not the level of wealth, but welfare policies that reduce inequities. (as cited in Brousselle & McDavid, 2020, p. 195)

Attempts at increasing the resilience of the population necessarily involve reinvesting in measures that reduce social inequalities, which can be done through investments in public health and healthcare, education, early childhood development, income support and social protection, better housing and living environments, policies that foster social and human capital, and improved job and workplace conditions (Brousselle & McDavid, 2021; World Health Organization, 2019).

Actions at the levels of mitigation, adaptation, and resilience can be implemented separately or in combination. In a world where risk is a dynamic phenomenon, a complementary consideration of these three dimensions increases the likelihood of reducing harmful effects and amplifying beneficial ones.

Local Cultural Contexts

Many countries have a history of colonization. Consequences of harm are experienced over several generations. *The Canadian Commission on Truth and Reconciliation* offers a testimony of harms and genocidal actions that happened in Canada against Indigenous people (Truth and Reconciliation Commission of Canada, 2015). Living in British Columbia, I've listened to stories of dispossession, of abuse and harm, stories that are not from distant history, but from the lived experiences of those who are still here to tell them. Elders share painful memories of entire villages emptied of children. Others tell stories of being forbidden to speak their language at school and of returning home as teenagers and not knowing their own relatives. Many children never returned, lost to illness, neglect, or abuse. Consequences of harm are experienced over several generations. Listening is taking part in a movement acknowledging Truth.

Legal frameworks are changing, with, for example, the ratification by 147 countries of the *United Nations Declaration on the Rights of Indigenous Peoples* (UNDRIP) (United Nations, 2007). Some changes are also taking place in colonized places, with UNDRIP adopted as law in British Columbia, and the recognition of the inherent right of self-government and self-determination expressed by the introduction of Section 35(1) of the Constitution Acts, 1982 (Government of Canada, 2024; McNeil, n.d.).

Through self-determination, we see a resurgence of Indigenous cultures, with initiatives in education, language revitalization, land and water management, health, data and knowledge ownership, and the affirmation of Indigenous rights. While the impacts of colonization are still evident, many positive and hopeful stories are unfolding.

When evaluations take place on ancestral Indigenous lands, the implementation of the United Nations Declaration on the Rights of Indigenous Peoples is essential, and cultural protocols should be understood and respected. Various processes can be put in place, and the field of evaluation offers valuable guidance (Bowman, 2019; Bowman & Bremner, 2024; Bremner et al., 2020; Brousselle et al., 2024a; Chilisa & Mertens, 2021; Chouinard & Cram, 2020; Cram, 2018a, 2018b; Rowe, 2022). Respecting Indigenous rights and cultures is essential for decolonizing evaluation. Particular attention should be paid to local traditions and cultures. For example in the podcast *Indigenous Insights*, An Garagiola, reflecting on her experience working with Indigenous communities in Minnesota (USA), emphasizes the importance of establishing trust (Rowe, 2024b). She also stresses that evaluators should support communities' self-determination and empowerment by allowing communities to guide the direction of the work, ensuring it serves their objectives (Rowe, 2024b). Communities should also decide how they wish to share their stories (Rowe, 2024b). Heather Burke and Cheyenne Williams, interviewed in another *Indigenous Insights* podcast, highlight the importance of building long-lasting relationships with Indigenous people and

being accountable for these relationships (Rowe, 2024a). They note the necessity of being humble, open, and balancing power dynamics (Rowe, 2024a). Additionally, they emphasize the importance of respecting local protocols and waiting to be invited (Rowe, 2024a). These testimonies underscore the fact that ‘helicopter’ evaluations and evaluators are not welcome, as they perpetuate the history of colonization. Being mindful of cultural differences, respecting local cultures, and adhering to local protocols should be principles applied to all evaluations, in all countries.

Mainstream evaluation approaches are still largely shaped by a few dominant cultures, whereas embracing diverse values and a range of voices offering alternatives to the prevailing systems could open new pathways for creating healthy, sustainable, and equitable societies.

Exhibit 1.1: Guiding principles from the Wolastoq Declaration on Indigenous Evaluation

Honour Indigenous Rights: We affirm the inherent rights of Indigenous Peoples to govern and direct their own evaluation processes. These rights are rooted in self-determination and sovereignty and must be respected by all evaluation frameworks and practices.

Protect Knowledge Sovereignty: Indigenous Evaluation must ensure the security and protection of Indigenous knowledge and data. This includes safeguarding the cultural integrity and intellectual property of Indigenous Peoples throughout the evaluation process.

Mobilise Traditional Paradigms: We commit to a continuous journey of learning and unlearning. This involves embracing Indigenous perspectives, methodologies, and protocols in evaluation practices, and challenging colonial paradigms that do not align with Indigenous values.

Source: EvalIndigenous (2024). *Wolastoq Declaration on Indigenous Evaluation*.
<https://www.evalindigenous.net/wolastoq-declaration.html>

Evaluation Takes Place in a Political Context

The political aspects of evaluation have been the subject of significant debate in the evaluation field. Carol Weiss offers a comprehensive reflection on the many political facets of evaluation projects.

Evaluation is a rational enterprise. It examines the effects of policies and programs on their targets—whether individuals, groups, institutions, or communities—in terms of the goals they are meant to achieve. By objective and systematic methods, evaluation research assesses the extent to which goals are realized and looks at the factors that are associated with successful or unsuccessful outcomes. The assumption is that by providing “the facts,” evaluation assists decision-makers to make wise choices among future courses of action. Careful and unbiased data on the consequences of programs should improve decision-making.

But evaluation is a rational enterprise that takes place in a political context. Political considerations intrude in three major ways, and the evaluator who fails to recognize their presence is in for a series of shocks and frustrations:

First, the policies and programs with which evaluation deals are the creatures of political decisions. They were proposed, defined, debated, enacted, and funded through political processes, and in implementation they remain subject to pressures—both supportive and hostile—that arise out of the play of politics.

Second, because evaluation is undertaken in order to feed into decision-making, its reports enter the political arena. There evaluative evidence of program outcomes has to compete for attention with other factors that carry weight in the political process.

Third, and perhaps least recognized, evaluation itself has a political stance. By its very nature, it makes implicit political statements about such issues as the problematic nature of some programs and the unchallengeability of others, the legitimacy of program goals and program strategies, the utility of strategies of incremental reform, and even the appropriate role of the social scientists in policy and program formation.

Knowing that political constraints and resistances exist is not a reason for abandoning evaluation research; rather it is a precondition for usable evaluation research. Only when the evaluator has insight into the interests and motivations of other actors in the system, into the roles that he himself is consciously or inadvertently playing, the obstacles and opportunities that impinge upon the evaluative effort, and the limitations and possibilities for putting the results of evaluation to work—only with sensitivity to the politics of evaluation research—can the evaluator be as creative and strategically useful as he should be. (as cited in Weiss, 1973/1993, pp. 93-94)

Post-truth Influence as the New Propaganda

Scholars, activists, and certain policymakers are advocating for transformative actions to confront the existential dangers facing living species. However, the advantaged will forcefully organize against learning from past mistakes and adapting rules to better fit ecological systems (Agrawal & Ribot, 1999; Ostrom, 2007). Industrial sectors and influential elites whose economic interests are at risk from these changes are crafting post-truth narratives to slow or block progress, creating an environment in which scientifically grounded information is overshadowed by campaigns that sow doubt and skepticism. Misinformation undermines efforts to implement policies aimed at achieving transformative goals, while the deliberate distortion, discrediting, or disregard of scientific evidence poses a serious threat to societal well-being. These misleading narratives, often spread through social media, are further amplified by prominent figures, influencing public policies. Contemporary examples of this post-truth phenomenon include the deliberate undermining of COVID-19 prevention measures and attempts to derail efforts addressing the environmental polycrisis—both of which have the potential to disrupt established economic systems and existing power structures (Brousselle, 2024, 2025).

Post-truth is not a singular phenomenon but rather a complex set of tactics aimed at influencing and manipulating public opinion, often driven by powerful economic and political interests. These tactics typically target ideas or initiatives that have the potential to drive transformative change (Brousselle, 2024, 2025).

The concept of 'post-truth' represents a more advanced and widespread form of propaganda (Poulakidakos et al., 2018). While disinformation and opinion manipulation are not new—propaganda has been around for centuries (Arendt, 2012/1967; Bernays, 1928; Chomsky, 2002)—the advent of social media has amplified these methods to unprecedented levels. As a result, new forms of opinion manipulation are emerging that are more sophisticated than ever before (Brousselle, 2024).

Post-truth tactics manifest through a variety of influence and manipulation strategies, operating across multiple levels and channels. These strategies are effective because they are deployed in a coordinated manner, working together in ways that amplify their impact. As such, these tactics should not be examined in isolation, as doing so would fail to capture the full extent of their implementation and potential consequences (Brousselle, 2024).

Post-truth strategies don't aim at directly opposing scientific evidence, but rather at raising controversy and doubt, creating polarization and undermining scientific consensus, all of which impede implementing transformative policies. Tactics are often insidious and are implemented in parallel, with social media, with its engagement-focused algorithms, amplifying divergent and polarizing views (Brousselle, 2024). The doubt created about truth is not the result of single effort, but rather the combination of

coordinated efforts. Tactics observed include (a) blurring of the divide between “facts, opinions and interpretations” (Brahms, 2020, pp. 2, mentioning Arendt), (b) direct attacks on science credibility by funding pseudo-research institutes or promising researchers compromising their independence and credibility, (c) polarization of opinion by supporting anti-governmental groups (for example, the Freedom Convoy in Canada) or supporting populist movements (Marquardt & Lederer, 2022; Marquardt et al., 2022), (d) creation of strategic alliances with specific groups (some Indigenous leaders and communities, for example) to increase the legitimacy of industrial groups and thus reduce their vulnerability to divestment campaigns by meeting Environmental, Social and Governance (ESG) sustainability investment criteria (CAPP, 2021), (e) recruitment of influential spokespersons to convey their messages (Bernays, 1928), (f) increased legitimacy of threatened industrial groups through involvement in visible but non-transformative action, (g) involvement of activists and researchers in visible but shallow activities as a way to divert their efforts from more transformative action (Brousselle, 2024; Lamb et al., 2020).

Post-truth tactics seek to counterbalance initiatives that would potentially have a transformative potential in our societies, diverting our attention from prioritizing actions urgently needed to preserve human and other living species’ health and well-being. These tactics are successful because they are taking place on fertile ground. First, the multiple layers of critical threats reduce our capacity to respond effectively, which reinforces the tendency to ignore these realities and thus stifles transformative action (Gifford, 2011; McIntyre, 2018). Second, our societies are effectively maintaining systems of exclusion that further alienate vulnerable groups and people. Persisting social injustices nurture the politics of discontent as well as populist movements. We have observed a global movement of distrust in public institutions (Fischer, 2021; House, 2020), which preventive measures implemented during the first phase of the COVID-19 pandemic have only exacerbated. We have also observed groups rallying against elites and governments (for example, Q-Anon and the Freedom Convoy) that are destabilizing governments and encouraging politicians to adopt more “moderate” positions than the bold action a socio-ecological transition requires. (as cited in Brousselle, 2025, p. 97)

Evaluators undoubtedly have varied experiences of post-truth. Those working directly on topics that potentially affect powerful economic interests may be confronted with post-truth tactics more directly. Furthermore, evaluators may not necessarily have the same level of agency to shape their own work, particularly if they work as consultants or within government. However, whatever the topic or their evaluations or their professional status, all evaluators may work in contexts where people’s systems of beliefs are influenced by post-truth content. How can evaluators practice in a world that is so fragmented, polarized, and where science is contested? In the following, we will explore potential pathways evaluators can adopt to resist post-truth tactics and disinformation.

Fighting back against post-truth strategies and tactics will involve that evaluators realize “that they are not dealing with an orthodox scientific debate based on sound data and evidence, but a well-funded sophisticated science denialist campaign based on ideological and corporate interests” (Gorski & Yamey, 2021). The evaluator will not be able to counteract disinformation and opinion manipulation strategies by presenting better facts, better information, or through implementing better deliberative processes (Fischer, 2021; House, 2020). (as cited in Brousselle, 2024, p. 542)

In highly polarized environments, collaborative and participatory methods are often ineffective. House and Howe's *Deliberative Democratic Evaluation* has been suggested as a way forward in political contexts (Contandriopoulos & Brousselle, 2012; House & Howe, 1999). However, post-truth contexts present distinct challenges. For instance, the foundational assumption that there are shared grounds for democratic debate may no longer hold true. Reflecting on *Deliberative Democratic Evaluation*, which he championed throughout his career, House acknowledges that such processes are “not potent enough” (House, 2020, p. 33) to address the complexities of the current post-truth era.

A vibrant public sphere, where individuals are informed and engaged in public deliberation on the pressing issues of the day, is a pre-requisite to a healthy democracy. (Jarman, 2016, p. 179)

In certain contexts, the conditions necessary for applying deliberative democratic approaches are no longer viable (House & Howe, 1999; House, 2020). As discussed earlier, the spread of disinformation, the erosion of independent journalism, the rise of echo chambers on social media, etc., create an environment where debate is no longer valued. In such settings, truth is undermined, which in turn weakens the foundations of democracy (Brousselle, 2024).

As Arendt ominously warned:

It has frequently been noticed that the surest long-term result of brainwashing is a peculiar kind of cynicism – an absolute refusal to believe in the truth of anything, no matter how well this truth may be established. In other words, the result of a consistent and total substitution of lies for factual truth is not that the lies will now be accepted as truth, and the truth be defamed as lies, but that the sense by which we take our bearings in the real world – and the category of truth vs. falsehood is among the mental means to this end – is being destroyed.

And for this trouble there is no remedy. It is but the other side of the disturbing contingency of all factual reality. Since everything that has actually happened in the realm of human affairs could just as well have been otherwise, the possibilities for lying are boundless, and this boundlessness makes for self-defeat. (Arendt, 2005/1967, p. 309)

From an evaluation perspective, there are two possible scenarios: Either the level of polarization still permits the construction of bridges between diverse communities—defined

not by geography—each with its own distinct feelings, values, beliefs, and representations (Yanow, 2000), or such bridges are no longer possible. In the second case, advocating for scientific consensus would likely be futile. Regardless of the situation, gaining a thorough understanding and mapping of the context is essential for an evaluator to be effective and to select the most suitable processes (Brousselle, 2024).

Post-truth is undermining the core principles of many established methods within our field. The challenge now is not just about engaging various stakeholders in evaluation processes, but also about protecting the integrity of both the evaluation process and its outcomes from the influence of disinformation. Insights from existing research on working within polarized contexts and addressing climate denial can provide valuable guidance in navigating these challenges (Brousselle, 2024):

1. Informing participants from the start about the risks of disinformation, the existence of contentious topics, and competing interests can help debunk tactics of influence if discussed before they happen (Gorski and Yamey, 2021; Lewandowsky, 2021a).
2. Highlighting scientific consensus and providing scientific information has been identified as contributing to building shared understanding even in groups with divided positions (Gorski and Yamey, 2021; Lewandowsky, 2021a).
3. Separating facts and observations from recommendations and policy options, recognizing the importance of deliberation around policy choices, so that communities and people can contribute to determining what options have most value for them (Fischer, 2021; Yanow, 2000). Most evaluation projects focus on assessing the value of various policy or program options rather than contributing to scientific knowledge. Clearly delineating between information that is factual and policy options might be a way to reintegrate democratic debate. Arendt emphasized that it is not the role of scientists to advocate for policy options without distinguishing between what the science indicates and what the policy choices are (Arendt, 2012 [1967]). Furthermore, focusing on communicating policy options rather than focusing on polarizing topics is more likely to rally support from people with divergent perspectives (Lewandowsky, 2021a).
4. Using culturally responsive language (Gorski and Yamey, 2021; Lewandowsky, 2021a). Messages designed to echo participants' "cultural frame of reference are particularly easy to understand (Jones and Song, 2014) and have greater impact" (Lewandowsky, 2021a: 10). Formulating the policy option based on accepted cultural norms will foster the chances of dialogue around a project. Examples of such strategies exist in other domains (Jones et al., 2020).

Combining these different elements while designing their project should provide evaluators with solid grounds to resist and fight back post-truth strategies and tactics. However, we acknowledge that these elements may seem limited when confronted with a high level of polarization and disinformation. What would be other inspirational avenues for dealing with post-truth politics? What can we learn from more specific studies on climate denial and other applied post-truth topics? Could some engagement

activities from other disciplines be sources of inspiration for conducting evaluations in this post-truth era? Are there other processes that would support consensus, shared representations, and trust building? (as cited in Brousselle, 2024, p. 545)

Incorporating these various elements into project design can offer evaluators a strong foundation for countering and resisting post-truth strategies and tactics. However, we recognize that these tools may feel insufficient when confronting of extreme polarization and rampant disinformation.

Conclusion

Context is crucial, yet it is often treated as peripheral when, in fact, it is central to our capacity for action. It plays a major role in shaping our thoughts, mindset, beliefs, and overall human health and well-being. As an evaluator, thoroughly understanding the context enables us to make informed decisions that enhance your ability to be mindful and respectful of local communities while also influencing the situation being studied. The evaluator has the agency to shape processes and can steer the project to positively impact both people and the environment. Integrating contextual elements that foster positive social relationships and contribute to environmental restoration represents a transformative approach to evaluation. This approach lays the foundation for engaging various stakeholders in the intervention being evaluated, encouraging them to consider these critical factors.

The context is also evolving rapidly and is difficult to predict. For instance, artificial intelligence, which didn't exist just a few years ago, is now impacting numerous spheres of activity, even as its power and potential consequences remain unclear. In this chapter, we have discussed the concept of risk and the post-truth context—issues that are highly relevant today but may shift in significance as time passes. The evaluator's ability to adapt and influence the context is rooted in their strategic capacity to navigate these changes. Therefore, evaluation in the 21st century must prioritize the contextual dynamics that matter, shaping the project accordingly while keeping the overarching goal of fostering positive change for all in mind.

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2. Evaluation for Planetary Health

Highlights

- **Planetary health:** “Planetary health is an approach that considers the interdependence between the elements (air, soil and water) and living beings (plants, animals including humans), emphasizing the importance of cultivating a positive ecosystem to support the flourishing of all forms of life” (Brousselle et al., 2024a, p. 175; Brousselle et al., 2024b).
- **Positive interventions:** Evaluation can promote the redesign and improvement of interventions to support regenerative and restorative actions, contributing to healthier ecosystems and more respectful relationships.
- **Holistic approaches:** Evaluators must take a holistic approach, considering all dimensions and their interactions. A siloed approach risks creating negative impacts on some dimensions while addressing others. The only way to advance planetary health is to consider all critical dimensions and their interactions simultaneously.
- **Respect for people and cultures:** Evaluations occur within diverse cultural contexts. Acknowledging local histories, practices, values, and perspectives is a crucial first step in shaping the evaluation process in accordance with local culture and principles.

Introduction

In a century characterized by unprecedented environmental and social challenges, evaluators can influence societal improvements by encouraging consideration of the broader impacts of actions. However, to have this influence, evaluators must adopt a moral stance that works towards planetary health; one that requires more than narrowly meeting a client's request or the siloed analysis of work for the public good but instead championing broader engagement on the determinants of planetary health (Brousselle et al., 2024a; Brousselle & McDavid, 2021). This approach involves considering and including the dimensions critical for the whole planet to thrive and also choosing the approach that is right for the political, cultural, and social contextual dynamics. Adopting planetary health lenses can help us implement holistic and positive actions.

Planetary health is a concept representing the interconnections between the ecosystem and living species, and the conditions necessary to support the well-being of all life forms. It is a

different notion from “ecosystem” as ecosystems may or may not support human life. Planetary health was defined by Whitmee and colleagues as:

the achievement of the highest attainable standard of health, wellbeing, and equity worldwide through judicious attention to the human systems—political, economic, and social—that shape the future of humanity and the Earth’s natural systems that define the safe environmental limits within which humanity can flourish. (Whitmee et al., 2015, p. 1978)

Redvers and colleagues found this definition too human-centric and not reflecting the perspective that all kinds of lives are equal (Redvers et al., 2022). The following definition was then created:

Planetary health is an approach that considers the interdependence between the elements (air, soil and water) and living beings (plants, animals including humans), emphasizing the importance of cultivating a positive ecosystem to support the flourishing of all forms of life. (Brousselle et al., 2024a, p. 175; Brousselle et al., 2024b)

Interestingly, in French and in English, we are creating new concepts and new words to represent the deep interconnections between the ecosystem and living species, when such concepts have existed for multi-generations in some Indigenous cultures. This disparity illustrates how culture and language represent and frame our worldviews, which impact the way we think and the way we act. For example, in the language of Nuu-chah-nulth people (Canada, BC) the expression *hesook-ish tsawalk* means everything is one, everything is connected (Umeek Atleo, 2011); in the language of Haida people (Canada, BC) *gina waadluxan gud ad kwaagid* means everything depends on everything else (<https://www.haidanation.ca/because-gina-waadluxan-gud-ad-kwaagid-everything-depends-on-everything-else-a-summary-of-haida-gwaii-marine-protected-areas-virtual-open-house/>). In the southern part of Africa, the concept of ubuntu exists: Ubuntu ‘is an essentially relational ethics, which prizes relationships of interdependence, fellowship, reconciliation, relationality, community friendliness, harmonious relationships and other-regarding actions such as compassion and actions that are likely to be good for others, in which actions are morally right to the extent that they honour the capacity to relate communally, reduce discord or promote friendly relationships with others, and in which the physical world and the spiritual world are fundamentally united’ (Ewuoso & Hall, 2019, p. 100). (as cited in Brousselle et al., 2024a, p. 175)

Creating new planetary health language to help us consider the whole system of relationships necessary for all forms of life to thrive is not enough. We also need support to help us navigate and apply this concept in all our actions. This is where frameworks, approaches, and tools can be helpful.

The Planetary Health Framework (presented below) was developed with this objective: to help us consider and include the key dimensions that matter for both human and natural systems when designing and implementing projects, programs, and policies that lead to thriving communities. The framework was created to identify sets of factors that, when considered, improve the design and successful implementation of interventions that will make a positive difference. It can be used in evaluation projects to systematically include dimensions that matter for planetary health. Since the framework's development, different approaches and tools have been created to support the work of evaluators (Brousselle et al., 2024b; Brousselle et al., 2022). This work has been developed based on three main premises:

First, we need to design and implement interventions contributing to a positive ecosystem, one that presents conditions for life to thrive and conditions that protect, restore, and regenerate (Hopkins, 2014; Wahl, 2016). By 'regenerative' we mean that we need to think about and actively design projects, programs, and policies that contribute to the 'good', and reverse current depletion trends (Hopkins, 2014; Wahl, 2016). The status quo is harmful; evidence shows we are reaching tipping points that will create dangerous feedback loops that cause more harm. As professionals, we need to think about and design interventions that contribute to regeneration. Regeneration can take place at different levels and in different domains. It could mean, for example: preserving existing or creating new carbon sinks for absorbing carbon emissions; reducing and repairing economic, social, and political injustices; as well as promoting healthy environments.

Second, a holistic approach that recognizes the intrinsic interconnectedness of us, rooted in the biosphere, is needed to tackle the multiple and embedded crises all societies are experiencing. Trying to address one crisis at a time, without considering broader impacts on the environment and community, increases risk potential in other areas (e.g. nuclear energy as a climate change solution). Further, a siloed approach is likely to contribute to worsening environmental and population health and well-being because it creates blind spots at the seams in our solution designs. All kinds of impacts should be considered: direct effects and externalities; short-term to long-term; and intended and unintended (Brousselle & McDavid, 2020; Rowe, 2019b).

Third, deliberative democratic practices (House and Howe, 2000) or interpretive approaches to policy making (Fischer, 2019; Fisher, 2021; Yanow, 2000) need to be implemented. In societies increasingly divided by distrust and strategic disinformation (Fisher, 2021; House, 2020; McIntyre, 2018), we will face resistance in making our work relevant and credible. Deliberative practices respond to this dynamic context and increase accountability; such practices give voice to those affected by policy and program decisions and, ultimately, empower communities. An approach that creates space for deliberation, dissent, and divergent thinking can generate new perspectives based on lived experiences, and particular values and representations. (as cited in Brousselle et al., 2024b, pp. 270-271)

Evaluators should explore engagement approaches to navigate dynamic contexts characterized by polarized perspectives and to empower communities while leading a transformation agenda.

An approach that creates space for deliberation, dissent, and divergent thinking can generate new perspectives based on lived experiences, and particular values and representations, (Brousselle et al., 2024b, p. 271)

Furthermore, listening to and carrying a diversity of voices, from the usually heard to the marginalized, oppressed, and excluded can make the evaluation project a direct contributor to increasing 'social, economic and environmental justice, rather than being complicit in sustaining an oppressive status quo' (Mertens, 2023, p. 12).

The United Nations Sustainable Development Goals

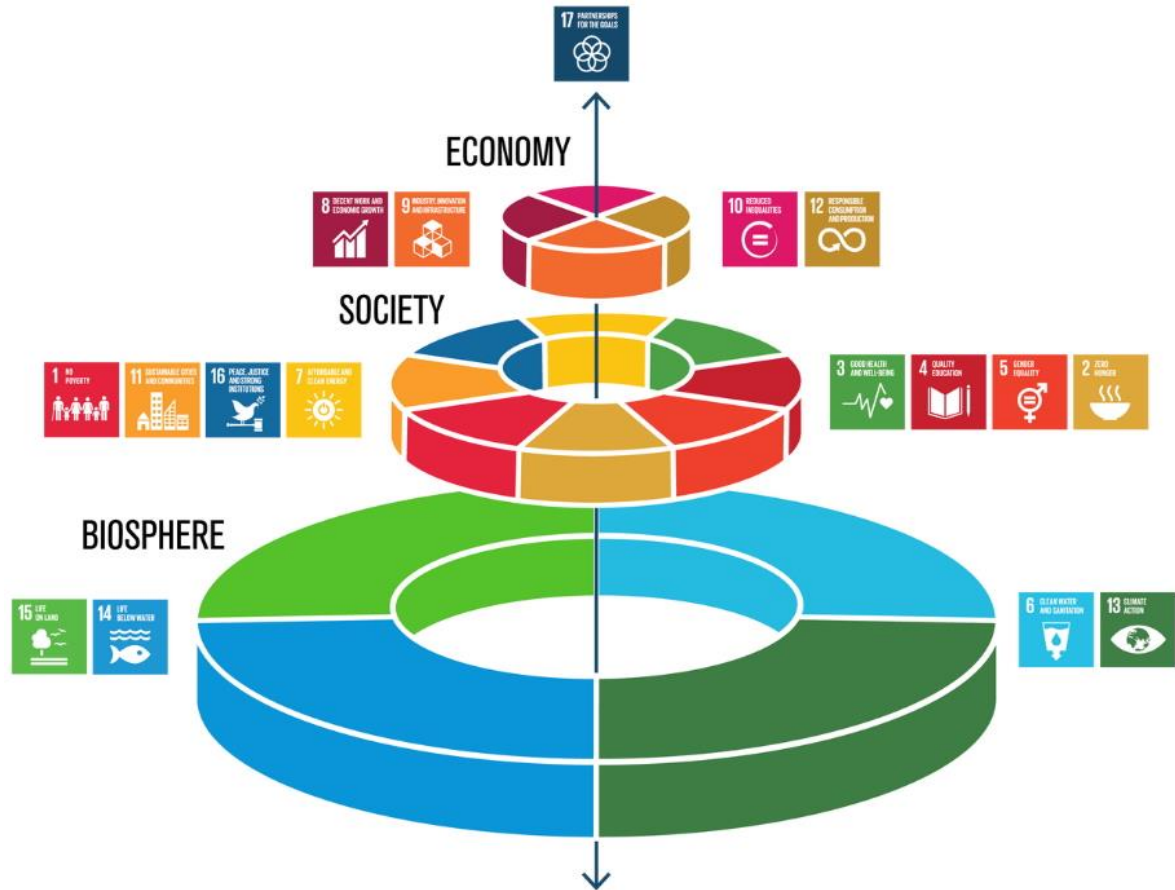
In 2015, all United Nations Member States adopted the 2030 Agenda for Sustainable Development. This initiative calls for action to support "peace and prosperity for people and the planet, now and into the future" (United Nations, 2025). The agenda outlines 17 goals and 169 targets. However, researchers quickly identified potential risks in the proposed approach and made suggestions to strengthen the implementation and achievement of these Sustainable Development Goals (SDGs). Below, we provide a brief overview of these discussions.

Rockström and Sukhdev (2016) observed that the SDGs are interconnected and illustrate how, for example, the food system spans multiple SDGs, including Life Below Water (#14), Life on Land (#15), Gender Equality (#5), Good Health and Well-being (#3), Clean Water and Sanitation (#6), Climate Action (#13), Responsible Consumption and Production (#12), No Poverty (#1), Zero Hunger (#2), and Decent Work and Economic Growth (#8). However, SDGs are in most cases not considered in a holistic manner and their connections are being ignored.

Second, interventions can offer win-win solutions, yielding positive impacts on multiple SDGs simultaneously (Bowen et al., 2017). However, they may also involve trade-offs, potentially having negative impacts on some SDGs (Bowen et al., 2017). Choosing a few SDGs to work on, without considering their negative impacts on other SDGs is unlikely to bring good to societies overall. Lim et al. (2018) emphasize that identifying a clear end goal would help resolve conflicts when an intervention creates trade-offs in impact. Unfortunately, no such objective has been clearly defined.

Third, the linear presentation of the SDGs does not accurately reflect their causal relationships. Some SDGs are, in fact, determinants of others. The Stockholm Resilience Center (2016) offers a pyramidal representation of the SDGs, highlighting which ones serve as foundational to others (see Figure 2.1).

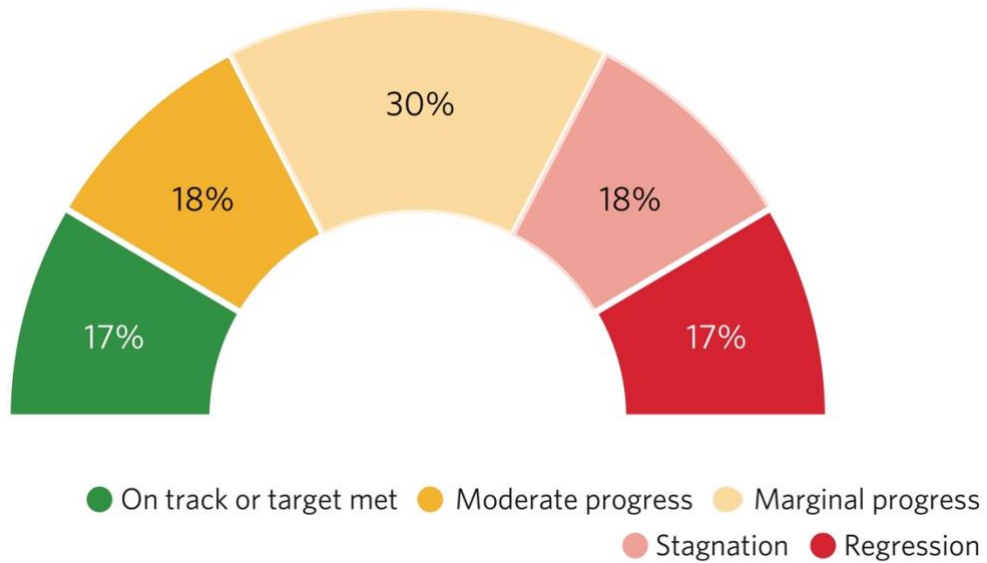
Figure 2.1 *The SDGs Wedding Cake*



Source and credits: Azote for the Stockholm Resilience Centre (2016). The SDGs wedding cake, Stockholm University ([CC BY-ND 3.0](https://www.stockholmresilience.org/research/research-news/2016-06-14-the-sdgs-wedding-cake.html)): <https://www.stockholmresilience.org/research/research-news/2016-06-14-the-sdgs-wedding-cake.html>

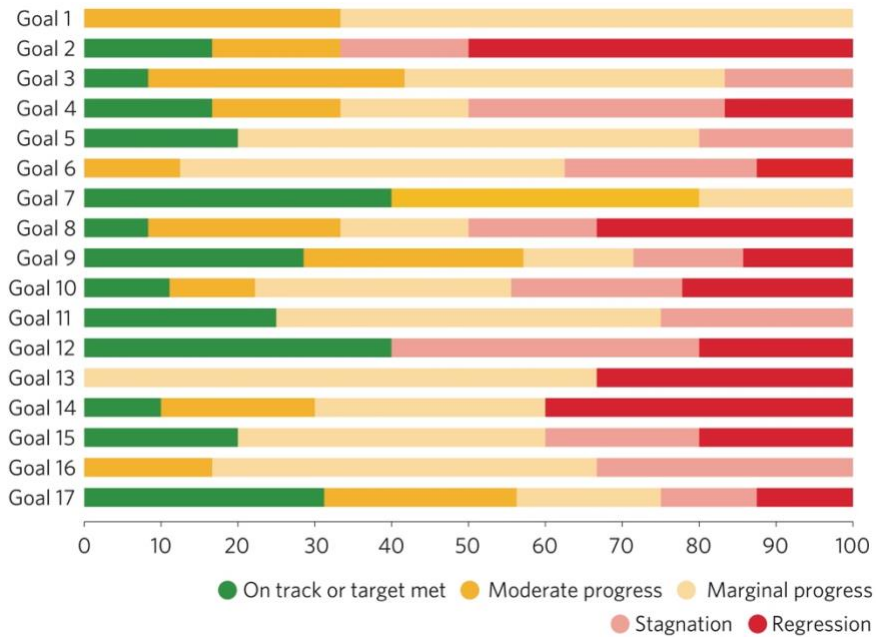
Overall, progress toward the implementation of the goals has been largely insufficient. The United Nations indicates that we are collectively off-track (United Nations, 2024) (see Figures 2.2 and 2.3).

Figure 2.2 Overall Progress Across Targets Based on 2015-2024 Global Aggregate Data



Source: United Nations. (2024). The Sustainable Development Goals Report, p.4:
<https://unstats.un.org/sdgs/report/2024/The-Sustainable-Development-Goals-Report-2024.pdf>

Figure 2.3 Progress Assessment for the 17 Goals Based on Assessed Targets, by Goal (percentage)



Source: United Nations. (2024). The Sustainable Development Goals Report, p.4:
<https://unstats.un.org/sdgs/report/2024/The-Sustainable-Development-Goals-Report-2024.pdf>

In fact, studies show that when organizations adopt the SDGs, they often cherry-pick certain dimensions. Dimensions related to Earth's life support systems are frequently overlooked, as they are considered more difficult to implement (Heras-Saizarbitoria et al., 2022; Lim et al., 2018; Stafford-Smith et al., 2017).

In the majority of the cases, the SDGs only serve to add color and fancy icons to the reports in a trend towards “SDG icon-picking” that may point to impression management and SDG-washing. (Heras-Saizarbitoria et al., 2022, p. 325)

The fact that the SDGs are so broad has given ample room for cherry-picking and given rise to a form of sustainability metonymy, whereby meeting selected targets of choice (e.g., economic growth, eliminating global hunger) are taken to signify conformity to the whole of the 2030 Agenda, irrespective of other goals and targets disregarded in the process. (Siegel & Lima, 2020, p. 2 cited in Heras-Saizarbitoria et al., 2022, p. 325)

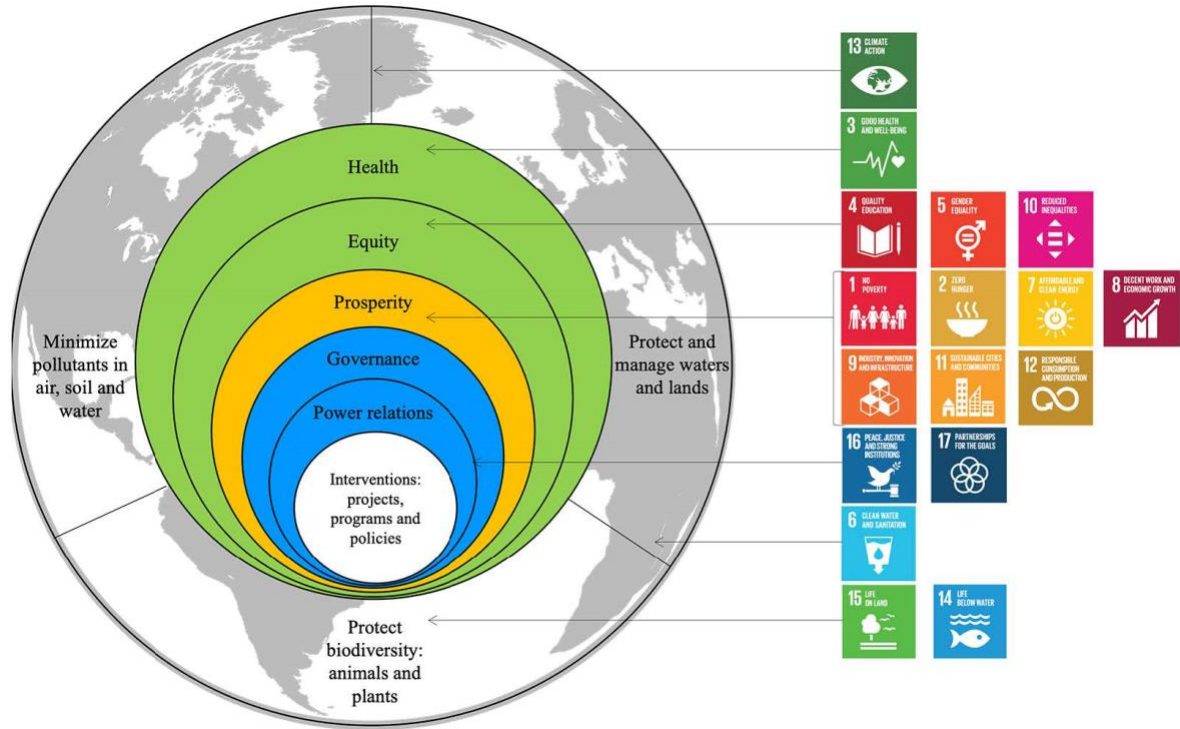
Studies recommend that all goals be approached from a systemic perspective, taking planetary boundaries into account. This approach would highlight both co-benefits and trade-offs, enabling real progress toward sustainable and healthy ways of living within planetary boundaries.

Using the Planetary Health Framework to guide our actions can help holistically address the United Nations 2030 Sustainable Development Agenda and avoid the commonly used pick and choose approach (Uitto, 2021). However, the dimensions of the Planetary Health Framework have been developed based on the literature from various knowledge domains, rather than being specifically tailored to the SDGs. For example, the concept of prosperity was used to avoid apparent contradictions between certain dimensions, such as Economic Growth and the respect for Planetary Boundaries. The Planetary Health Framework covers all SDGs and could be tailored to specifically address the specificities of each one and all.

The Planetary Health Framework

The Framework (see Figure 2.4) identifies interconnected natural systems (exterior circle) and human systems (interior circles). Key dimensions of natural and human systems have been included based on what researchers have identified as critical dimensions that will lead to positive outcomes for both natural and human systems. The dimensions of governance and power relations are of different nature. They were included as their consideration maximizes the chances of any given intervention (project, program, policy) to be successfully implemented.

Figure 2.4 *The Planetary Health Framework*

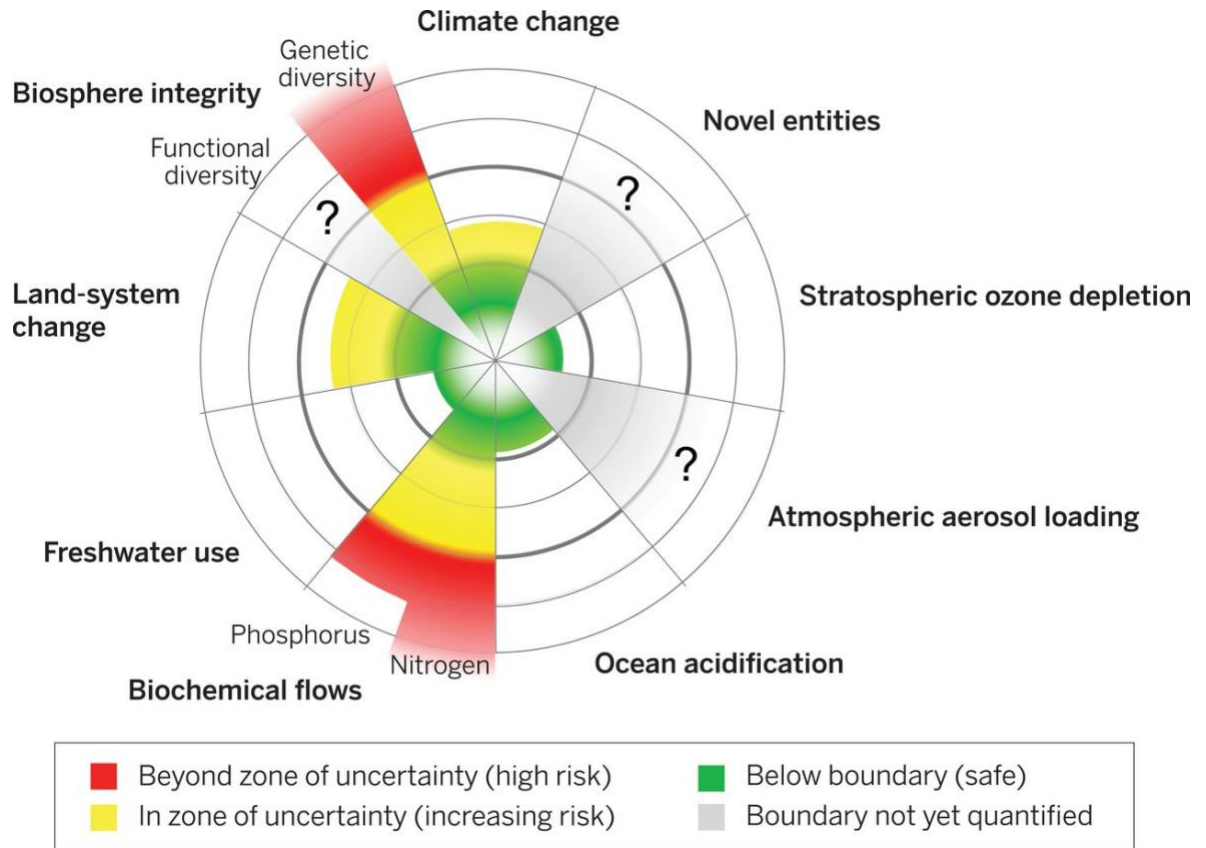


Source: Adapted from Brousselle, A., & McDavid, J. (2021). Evaluation for Planetary Health. *Evaluation*, 27(2), 177. <https://doi.org/10.1177/1356389020952462>

Natural Systems

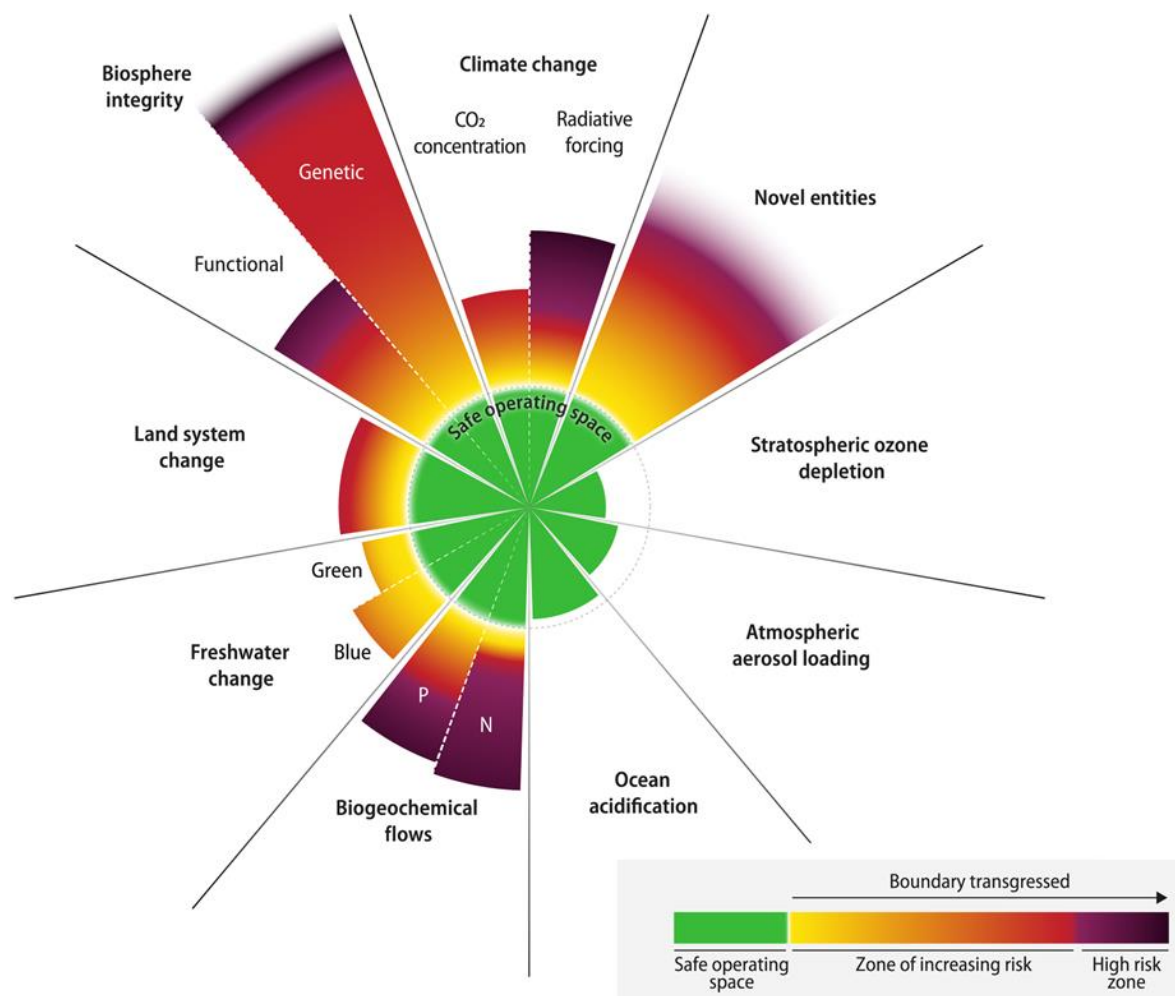
Nine planetary boundaries have been scientifically identified along with the ‘safe operating space’ in which human beings can live (Richardson et al., 2023; Rockström et al., 2009; Steffen et al., 2015). Some of the systems identified within these nine boundaries are interconnected and impact one another, such as climate change and biodiversity. For instance, evidence indicates that crossing the planetary boundary for either climate change or biosphere integrity can sharply heighten the risk of crossing the other (Richardson et al., 2023). Steffen et al. (2015)’s study indicated that four of the nine systems have already transgressed what is considered a safe space for human life on Earth. Richardson et al. (2023)’s updated study indicates that six out of nine systems are beyond safe limits and that for all boundaries previously transgressed, the level of transgression has increased. Figures 2.5 and 2.6 illustrate this evolution.

Figure 2.5 Planetary Boundaries in 2015



Source: Steffen, W., Richardson, K., Rockström, J., & al. (2015). Sustainability. Planetary boundaries: guiding human development on a changing planet. *Science*, 347, 1259855. <https://doi.org/10.1126/science.1259855>

Figure 2.6 Planetary Boundaries in 2023



Source: Richardson, K., Steffen, W., Lucht, W., Bendtsen, J., Cornell, S.E., Donges, J.F., Drüke, M., Fetzer, I., Bala, G., von Bloh, W., Feulner, G., Fiedler, S., Gerten, D., Gleeson, T., Hofmann, M., Huiskamp, W., Kummu, M., Mohan, C., Nogués-Bravo, D., Petri, S., Porkka, M., Rahmstorf, S., Schaphoff, S., Thonicke, K., Tobian, A., Virkki, V., Weber, L. & Rockström, J. (2023). Earth beyond six of nine planetary boundaries. *Science Advances*, 9(37). <https://doi.org/10.1126/sciadv.adh2458>

Rockström et al.'s (2009) and Steffen et al.'s (2015) work on Planetary boundaries was used as a foundation for identifying the natural systems dimensions of the Planetary Health Framework. To make the dimensions more accessible to everyone, these nine dimensions were synthesized as three main dimensions: (1) pollutants in air, soil, and water; (2) land and water preservation and management; and (3) biodiversity.

1. **Pollutants in air, soil, and water.**

These dimensions aim at reducing and controlling sources and quantities of CO₂, chlorofluorocarbons, pesticides, fertilizers, aerosols, plastics, heavy metals and radioactive products that are disposed into the biosphere. Greenhouse gas emissions are pollutants. Reducing pollutants will directly affect climate change, ocean acidification, chemical pollution, atmospheric aerosols, global freshwater, stratospheric ozone depletion as well as biogeochemical flow boundaries.

2. **Land and water preservation and management.**

These dimensions focus on protecting natural environments (land and water) from human-led alterations that disturb natural cycles. Restoring and regenerating land and water spaces and systems will increase thriving lifeforms and enhance natural systems. Critical zones are carbon sinks (sequestering carbon), river basins, moisture feedback cycles and water quality. This dimension will affect climate change, ocean acidification, changes in land use, global freshwater use, and biodiversity loss.

3. **Biodiversity.**

This dimension is about protecting plants and animals by creating conditions that maintain and enhance ecological diversity. Species are disappearing, but the density of living species populations is also decreasing (World Wild Fund for Nature, 2022). Diverse ecologies are more resilient, more adaptable and more likely to withstand climate change-related shocks. By paying attention to biodiversity and to our impact on biodiversity we can create opportunities for living species to thrive in rich and healthy ecosystems.

Human Systems

The framework includes five dimensions of human systems. Health, equity, and prosperity dimensions can have a positive and protective effect for human beings. The two other dimensions, power and governance, relate to the capacity to successfully implement initiatives; as such, they are of a different nature than the three other human systems dimensions.

The following sections describe each dimension and illustrate their interconnection with one another and with planetary boundaries.

1. **Health.**

Health is a determinant of our ability to enjoy and thrive in life.

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. The enjoyment of the highest attainable standard of

health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.” (World Health Organization)

Health is determined by many factors related to individual behaviors and characteristics, our physical environment, access to health services, and is largely determined by our position in society in terms of income, education, gender, racism, employment and working conditions. Culture also influences what matters for our health (see Figure 2.7).

Culture normalizes behaviors and influences our attitudes and actions. For example, in the past, driving without wearing a seatbelt was common, as was smoking in public indoor spaces. Over time cultural attitudes have shifted; new norms have emerged that protect our health. We can reduce our impact on the environment while working on population health determinants by prioritizing programs and policies that create co-benefits. By selecting climate change interventions that positively impact health, we create poly-benefits that impact the health of our families, communities, and the natural world. For example, active transportation (e.g. cycling or walking) reduces greenhouse gas emissions and improves air quality in urban environments, which leads to reduced hospitalizations and health conditions. Increasing physical activity also has positive consequences on physical and mental health. Furthermore, scientists have documented positive health impacts of having public spaces where people can walk and meet, of having green spaces that include trees and forests, and streets that are safe for children, pedestrians, and cyclists. Demonstrating and communicating how new projects, programs, and policies have the potential to create opportunities for people to improve their health can increase public support for projects designed to meet climate or sustainability targets.

2. **Equity.**

Equity is defined as “the absence of unfair, avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically or by other dimensions of inequality (e.g. sex, gender, ethnicity, disability, or sexual orientation). Health is a fundamental human right. Health equity is achieved when everyone can attain their full potential for health and well-being.” (World Health Organization)

Equity is a major but often overlooked determinant of health.

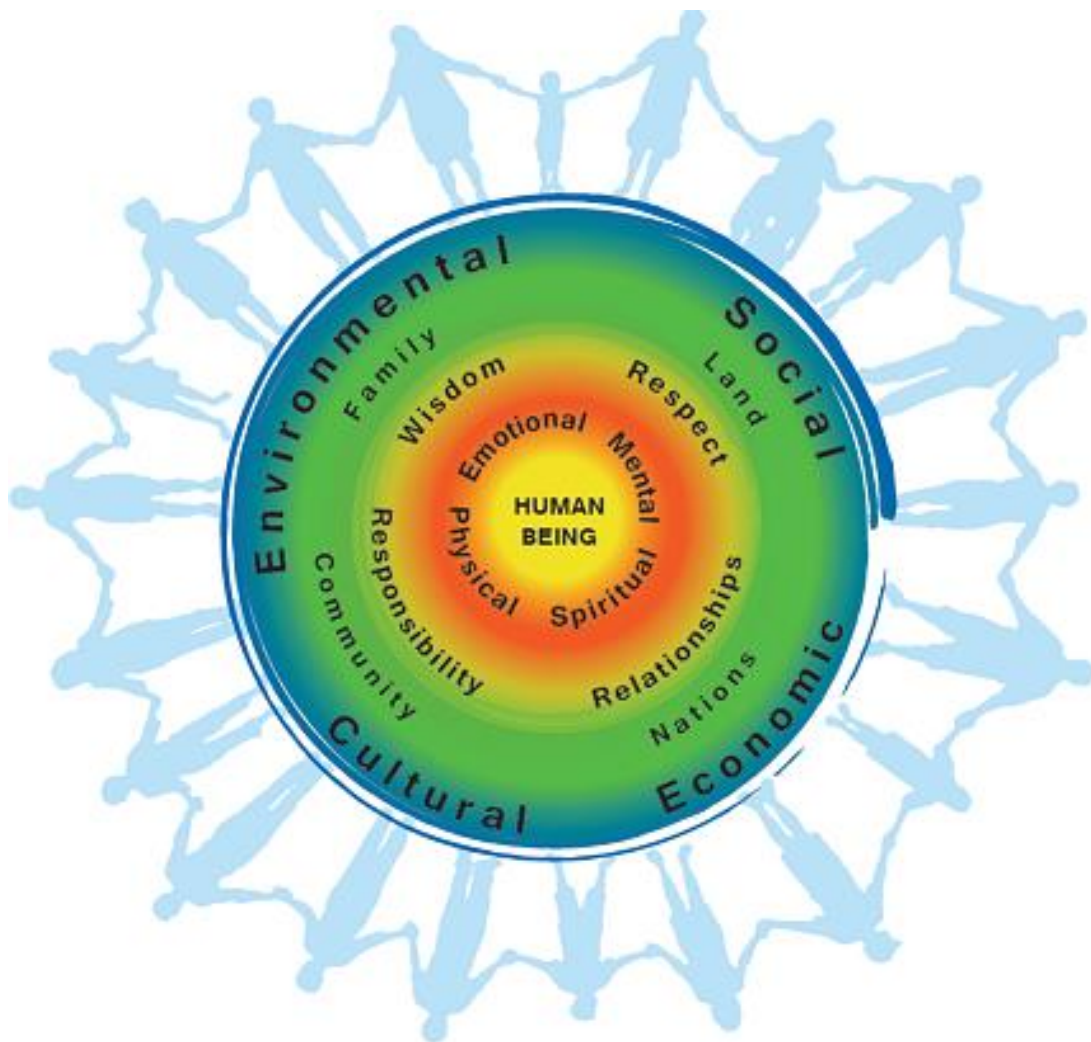
In 1980, the Black Report (Black et al., 1980) showed that inequities explained the persistence of mortality gradients over time: even if health outcomes improved for a whole population and major causes of deaths were reduced, a gradient persisted among different social classes of the population. This work led public health researchers to consider equity as a major factor impacting population health. Inequities are defined as inequalities on which we can act. They are perceived to be a central matter for health and social justice. To positively impact health, one needs to improve equity. If not, there is a risk of increasing inequalities which, in the end, will have a negative health effect for

those who are disadvantaged (Buregeya et al., 2019). (as cited in Brousselle & McDavid, 2021, p. 175)

As we saw in the previous chapter, equity is also a major determinant of population resilience. It is a major determinant of our collective capacity to adapt, be less impacted, and recover from crises.

Implementing equity lenses would invite to consider the local, global and intergenerational perspectives to redress environmental injustices.

Figure 2.7 *First Nations Health Authority Health and Wellness Framework*



Source: First Nations Health Authority, First Nations Perspective on Health and Wellness.
<https://www.fnha.ca/wellness/wellness-for-first-nations/first-nations-perspective-on-health-and-wellness>

3. Prosperity.

Prosperity in societies enables individuals, families, communities and the state to make choices that can enhance well-being. Adequate income is a condition necessary to meet needs ranging from food and shelter to well-being. Ensuring minimum income is met at the individual level is central. But the logic of continuous growth at a collective (societal and global) level is not sustainable (Alexander, 2015b). Recent writings contest the need to grow the economy as if there were no limits and suggest instead that beyond a certain level, the quest for (material) growth negatively impacts the environment. O'Neill et al. (2018) indicate that a certain level of income and thus of economic activity is required for a country to implement social programs that would ensure population well-being and to allow population needs to be met, but that economic growth shouldn't be an end in itself. To live collectively within planetary boundaries, steady-state economic activity or even de-growth of the wealthiest economies would be needed to allow other countries to reach a level of wealth necessary for their population well-being (Alexander, 2015b; O'Neill et al., 2018). Economic growth cannot indefinitely be pursued knowing that there are limited resources and that global population continues to grow. (as cited in Brousselle & McDavid, 2021, p. 174)

We choose to use the term prosperity rather than economic growth to include the many forms of economic and social activities that contribute to well-being. Prosperity includes contributions such as social capital, informal exchange and sharing systems, and/or out-of-market solidarity systems, for example. GDP is no longer considered a valid indicator of progress (Alexander, 2015a; Jackson, 2017; O'Neill et al., 2018; Raworth, 2017). There is an on-going debate around Green Growth, Degrowth and Green New Deal. Green growth is likely to lead to reduced greenhouse gas emissions but also to increased unemployment and inequities unless strong redistributive social programs are concurrently implemented (O'Neill, 2020). Degrowth, with strong redistributing policies, and Green New Deal seem to be models that would allow for reduced impacts on greenhouse gas emissions while also mitigating negative social impacts and achieving a just transition (D'Alessandro et al., 2020; O'Neill, 2020). The use of the term prosperity in the framework refers to the rights of human beings to have enough resources to fulfill their basic needs and enjoy life. (as cited in Brousselle et al., 2022, p. 340)

We need to think about an economic system that allows for prosperity, defined as sufficiency and well-being, without pushing us beyond planetary boundaries (O'Neill et al., 2018).

Transitioning away from carbon-intensive economic activities will involve the redeployment of resources in our economic sectors and support for workers as they convert to different, more sustainable activities. Furthermore, encouraging the local economy allows a greater control over production conditions. Developing a solidary local economy to support our ecological transition is a win-win approach.

4. Governance.

Governance refers to the ways and means employed by society to make collective decisions, choose collective goals, and take action to achieve those goals. (Chaffin et al. 2016, p.401)

With regards to climate change and the need for effective governance models to respond to the climate crisis, the 2023 IPCC report states:

C.1.2 Government actions at subnational, national and international levels, with civil society and the private sector, play a crucial role in enabling and accelerating shifts in development pathways towards sustainability and climate resilient development (very high confidence). Climate resilient development is enabled when governments, civil society and the private sector make inclusive development choices that prioritize risk reduction, equity and justice, and when decision-making processes, finance and actions are integrated across governance levels, sectors, and timeframes (very high confidence). Enabling conditions are differentiated by national, regional and local circumstances and geographies, according to capabilities, and include: political commitment and follow-through, coordinated policies, social and international cooperation, ecosystem stewardship, inclusive governance, knowledge diversity, technological innovation, monitoring and evaluation, and improved access to adequate financial resources, especially for vulnerable regions, sectors and communities (high confidence). (IPCC, 2023, p. 24)

These findings apply to planetary health. When exploring what governance for planetary health means for a project, evaluators should also consider Indigenous self-determination rights on lands where Indigenous Peoples live.

In 2007, the United Nations adopted The Declaration on the Rights of Indigenous Peoples (United Nations, 2007) which reinstates the human rights of Indigenous Peoples and their right to self-determination. This declaration was adopted, with 144 states voting in favour, 4 votes against – not surprisingly: Australia, Canada, New Zealand and the United States- and 11 abstentions (<https://www.un.org/development/desa/indigenouspeoples/declaration-on-the-rights-of-indigenous-peoples.html>).

Canada reversed its position in 2016 by removing their permanent objectors status to the Declaration and in June 2021, the United (United Nations, 2007) Declaration on the Rights of Indigenous Peoples Act became federal law (Bill C-15). Additionally, one of its provinces, British Columbia, made UNDRIP into law, in November 2019 (<https://www2.gov.bc.ca/gov/content/governments/indigenous-people/new-relationship/united-nations-declaration-on-the-rights-of-indigenous-peoples>). Today, in different regions of the world, colonial oppressive systems are still largely in place, with many intersecting layers at play such as environmental racism, cultural depletion, land

dispossession, and many others with the consequence of deeply affecting Indigenous Peoples and communities (Deranger et al., 2021; Nesmith et al., 2021). Many solutions supported by national governments are further negatively impacting Indigenous Peoples and are not taking into consideration Indigenous Peoples' reality, contributing to further marginalizing and dispossessing them from their rights (Deranger et al., 2021). (as cited in Brousselle et al., 2022, p. 332)

Governance in Canada, as in many countries, is a multi-level function. Working respectfully with local Indigenous peoples and communities, expanding shared decision-making with these communities and institutions, and giving space to a diversity of cultural practices is part of building more equitable and more resilient communities.

5. Power relations. Power is a dimension that encompasses many aspects of projects.

Closely related to governance, power relations are an important determinant of whether/how resources for policies and programs are allocated and benefits and costs are distributed, how programs are designed and whether/how they are implemented. It is important to consider who holds power due to systemic inequity/bias, how power can be redistributed to people and communities who are marginalized by dominant systems, and what and how opportunities and partnerships for shared capital, resources, land, governance are created. (Brousselle et al., 2022, p. 342)

Transformational projects that aim for changes in how we live and work to reduce our collective footprint may also lead to strong political opposition from some interest groups, particularly those that are invested in activities that are carbon emissions sensitive. Anticipating resistance as interventions are designed and especially as they are implemented can help address power-related challenges; some approaches include finding allies, sharing decision-making, building coalitions, and using governance institutions effectively.

The framework has inspired different approaches and tools (Brousselle & Buregeya, 2018; Brousselle et al., 2024b; Brousselle et al., 2022). In particular, the Rapid Assessment Tool for Planetary Health (Brousselle et al., 2024b) was created to assess projects, programs, and policies at the local government level in Canada. The tool and its use and contribution will be presented in Chapter 3.

A Transformative Approach

The field of evaluation offers many avenues to make positive change, and it is up to evaluators both individually and collectively to design their approaches to create as much positive change as possible. As Patton says, this is where one can put their skin in the game (Patton, 2020). In particular, the elements below can be kept in mind for shaping your evaluation project.

Positive transformation can be enhanced by:

- Working at the nexus of natural and human systems, considering the broader context in our evaluations, locally and globally (Patton, 2020; Rowe, 2021; Uitto, 2021). Considering the evaluand into its own context matters (Uitto, 2021), while also considering interactions and dynamic relationships, which highlight the importance of system thinking (Magro et al., 2021; Magro & van den Berg, 2019; Patton, 2021b).
- Redefining accountability (Rodriguez-Bilella et al., 2021, p. 164).

Evaluators should assume 'some moral fiduciary responsibility', not towards commissioners, but by defending the interests of those less able to do so for themselves, as stated by House (House, 2020, p. 32), yet also to be a voice for nature, elements and living species. (as cited in Brousselle et al., 2024a, p. 187)

Evaluators should be accountable towards other living species, nature, youth, and towards future generations (Brousselle et al., 2024a). This involves adopting a futurist/prospective reading of the challenges instead of focusing on the past only, as most evaluations do (Patton, 2021a). It is also an invitation to revisit who should be invited to participate in the evaluation project (Montrosse-Moorhead et al., 2019).

- Addressing the root causes of discrimination and giving voice to marginalized, colonized and oppressed people and communities (Mertens, 2023, 2024). Consider human rights violations, racism, discrimination and oppression based on sex and gender, color, religion, culture and origin, age, etc.

A transformative lens acknowledges that there are multiple perspectives, each expressing a different reality, where some voices are heard, and some are not. It is this inequality of whose voice matters that underpins our discussion about transformative evaluation. (Rodriguez-Bilella et al., 2021, p. 162)

- Revisiting the role of the evaluator.

The role of the transformative evaluator is facilitative rather than directive – being in charge of the evaluation process and making judgements as an expert evaluator. (Rodriguez-Bilella et al., 2021, p. 163)

This is particularly true when working on Indigenous lands and with Indigenous people (see Exhibit 2.1). Evaluators should support self-determination and encourage Indigenous-led projects. That’s the only way to be as responsive as possible to local community cultures and principles. Where can we start?

A transformative evaluation design begins with a stage of building relationships as a first step to understand who needs to be included and how they can be included in ways that are culturally respectful (Mertens, 2018; Mertens & Wilson, 2019). (as cited in Mertens & Catsambas, 2021, p. 169)

Advocating for a more inclusive approach to evaluation—socially, by including a diversity of groups, and environmentally, by systematically integrating consideration of the environmental impacts of human activity—requires the evaluator to go beyond the traditional role of “knowledge creator” and to embrace the role of “social change agent” (Mertens, 2024).

Exhibit 2.1: Guiding principles for Indigenous evaluations

While recognizing that each Indigenous community possesses unique views, involving unique cultural, political and historical contexts, the four subject matter experts highlighted the following broad guiding principles as especially important to Indigenous approaches to evaluation and research. This list is not exhaustive, and additional detail with respect to the guiding principles presented here are included in the four papers appended to the report.

Relationships are central

Relationships are central to Indigenous approaches to evaluation and research practices. This includes relationships with the land, culture, community, people, ancestors, and spirituality.

Respect, trust, and responsibility are key factors when it comes to building relationships. Evaluators and researchers have responsibilities in the relationships they create in the community that includes how they remain accountable to those who have shared their knowledge. Developing trusting and respectful relationships with community members, program staff, and program participants can be achieved by participating in face-to-face meetings, listening and speaking, sharing and hosting, being generous and respectful in sharing one’s own knowledge. Evaluators and researchers can also demonstrate accountability by being actively present

during the sharing of information, allowing time for reflection after information is shared, and ensuring that the information will serve the community and organization in the end.

Reciprocity is also a key part of being respectful and accountable to the relationships developed through the evaluation or research process. Evaluators and researchers have the opportunity to build capacity in a community, and it is important that they determine what will be left behind to ensure a deeper understanding of the role of evaluation or research and the skills necessary to do this work. This is also important when it comes to sharing and disseminating the findings; it is important to ensure that the results are disseminated in a way that is meaningful to the community. This can be done through community events or gatherings, videos or user-friendly materials.

Culturally responsive and community driven

Culturally responsive means that programs and services are respectful and relevant to the beliefs, practices, culture, and linguistic needs of diverse client populations and communities. It also requires the knowledge and capacity to respond to these needs. A culturally responsive evaluation or research study recognizes the need to bring to the forefront the land, language and cultural practices that are specific to those involved.

Recognizing the importance of community and the context of a program, community leaders as well as program staff and/or participants need to be engaged at the outset of a project. This means that members of the community would be the ones to determine the purpose of the evaluation or research study as well as the methods that will best capture information that would be most useful. This would ensure that the study meets the needs of the program and community. They would then be involved in all aspects of the research or evaluation from planning the scope and methodology to sharing the findings.

A key aspect of community-driven and culturally responsive approaches to evaluation and research is engaging an advisory group throughout the process. This approach recognizes that although the evaluation or research team may bring technical expertise to the project, it is the community and program that provide direction throughout the process. The advisory group can include program staff, community leaders, Elders, knowledge keepers, and other partners directly involved in the program. The role of the advisory group can include determining and validating the approach, the questions, and the evaluation/research results. They should also determine the best way to share the information among members of their community. This ensures that a community-driven approach is ultimately used.

Elders, knowledge keepers, and healers

Developing partnerships with Elders, Indigenous knowledge keepers, and healers is essential because it ensures that their insights guide the work of the evaluation or research. It also allows for the inclusion of ceremonies and the sharing of medicines or sacred objects that are appropriate given the community context (Johnston, 2019; Rowe, 2019), and ensures that knowledge and sacred stories shared are not given away without permission.

Respecting community protocols is also important when in communities. This may include the giving of tobacco or wild rice to show respect and to ask for guidance during the study or the use of a talking piece/stick in talking circles. Elders, knowledge keepers, and healers can provide guidance with these protocols as it is also important that the person who is giving these medicines/gifts understands the teachings related to the offering.

Sharing personal experiences

Holding and honouring the stories of participants, communities and organizations is sacred and not to be taken lightly in Indigenous methods. How a community's stories are used and presented is crucial to being accountable to the relationships established during the process. Evaluators and researchers have a responsibility to ensure that personal experiences and stories are represented accurately. This can be done by sharing preliminary findings with participants and asking that they review the draft report to validate the findings.

Strengths-based perspectives

Indigenous approaches to evaluation and research use strengths-based perspectives rather than deficit-based ones. A strengths-based perspective focuses on identifying the resources available to address problems in a positive way. Whereas, deficit-based perspectives focus on problems with outcomes, without taking into account the social or structural issues underpinning the conditions for Indigenous peoples. Evaluation must focus on strengths, recognize challenges, but also consider individual and community resilience. Strengths-based perspectives look for opportunities for growth, emphasize a community's assets, and identify solutions to issues.

Decolonized approach

Indigenous approaches and methodologies to evaluation and research must take a decolonized approach that recognizes the intergenerational impacts of colonization on Indigenous peoples, their families and their communities. These approaches must

consider the historical trauma and cultural repression experienced by Indigenous people.

Trauma-informed approach

Evaluators and researchers need to be aware of and understand a community's history and understand the intergenerational impact of colonization and its associated negative impacts on the lives of Indigenous people. This will help to ensure that evaluation and research approaches or processes that have alienated Indigenous peoples in the past can be avoided. When a trauma-informed approach is used, the process can contribute to the well-being of the community decolonization, and reconciliation.

Ensuring appropriate timelines and resources

Indigenous approaches to evaluation and research cannot be rushed. It takes time to understand the context of a community or program; build meaningful, respectful and trusting relationships and approaches; allow for community engagement, hosting and attending ceremony; undertake meaningful data collection and analysis of results; and fulfil the need for reciprocity not only of the results but also for capacity-building. There also needs to be a sufficient budget to allow for relationship building, food, cultural protocol items, knowledge keeper and Elder gifts as well as travel.

Source: Bremner, L. K., Johnston, A. L. K., G., R., Sasakamoose, J., & Evans, J. (2020). Exploring Indigenous Approaches to Evaluation and Research in the Context of Victim Services and Supports. Summary by Jane Evans. Papers Submitted to the Department of Justice Canada by Larry K. Bremner, Andrea L.K. Johnston, Gladys Rowe, JoLee Sasakamoose, Department of Justice Canada/ Ministères de la Justice Canada (last accessed online on Aug 20, 2024), p. 6-8:
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Conclusion

The Planetary Health Framework is a kind of map that can be used for different purposes and adapted to different contexts. It can be used for the purpose of engaging in dialogue with different kinds of actors. Furthermore, acknowledging the existence of different cultures and values, the Planetary Health Framework can be adapted to make it meaningful to local

communities. Even if this model aims at speaking to a macro-level global community, the various dimensions of the framework may need to be adapted and negotiated to make sense to different peoples with different cultures (Brousselle et al., 2022).

Successful evaluations are processes and products that are leading to felt ownership by people involved and recognized as credible, legitimate. This will be achieved if and only if many different local actors are being part of modeling the evaluation in a way meaningful to them. (Brousselle et al., 2022, p. 335)

Different uses of this framework and derivative tools in the evaluative context will be presented in the next chapters.

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3. The Planetary Health Rapid Impact Assessment Tool

Highlights

- **Purpose and flexibility of the Planetary Health Rapid Impact Assessment Tool:** The Planetary Health Rapid Impact Assessment Tool is designed to help assess the potential impacts of all kinds of interventions on planetary health. It is applied at various intervention stages, from conceptualization to post-implementation, and can be tailored to specific needs and contexts. The tool can be used to complement existing evaluation methodologies.
- **Holistic perspective:** The tool ensures that all dimensions related to both natural and human systems are considered. It avoids selective assessments, ensuring a comprehensive approach to identifying planetary health impacts.
- **Support for identifying trade-offs:** By rating and analyzing interventions across various planetary health dimensions, the tool helps identify trade-offs—highlighting where positive impacts in one area may cause harm in another and then helping to guide improvements or identify compensatory measures.
- **Facilitating democratic engagement:** When used in group settings, the tool aids in gathering and contrasting diverse perspectives, fostering transparency and democratic engagement. It encourages collaborative reflection on the impacts of interventions.

Introduction

Introducing planetary health lenses in all evaluation projects involves identifying how the intervention interacts with the context. Interventions are both shaped by the context and shape it. On one hand, as we will experience in the coming years with more turbulent times due to climate change, the context is likely to change rapidly and impact the relevance of interventions. On the other hand, interventions also impact human and natural systems, and their impacts should be anticipated and assessed in all evaluation projects.

A rapid assessment is useful for quickly providing an overview of potential impacts on planetary health dimensions. This approach is different from an effect analysis, as it is not about causality. Furthermore, unlike effect analysis, which is a post-implementation activity, rapid assessments can be conducted at the design stage of the intervention as well as after its implementation. Below, we will describe the Rapid Assessment Tool for Planetary Health,

how it can be tailored to your own evaluation context, and its contributions and uses. The full description of how to develop a Planetary Health Rapid Impact Assessment Tool, compile results, and use them for engagement is presented elsewhere (Brousselle et al., 2024b).

The Planetary Health Rapid Impact Assessment Tool

The objective of the Rapid Assessment Tool for Planetary Health is to provide an easy-to-use tool for people, regardless of their level of expertise, to consider major determinants of planetary health from a holistic perspective. The Rapid Assessment Tool for Planetary Health supports the rapid assessment of all types of interventions across all sectors. It can help people consider the planetary health impacts of interventions, covering both natural and human systems. It helps identify if and how the intervention contributes positively to some dimensions while deteriorating others. It supports the identification of trade-offs, as some interventions bring very desirable impacts on certain dimensions while harming others. It can also be used as an engagement tool for discussing intervention impacts within groups. Responses from different groups of participants can be compiled and contrasted (for details see Brousselle et al. 2024).

Such a tool can also be used at different stages of an evaluation, such as supporting the development of the logic model with a planetary health perspective, in logic analysis to document the theory of intervention, in contribution analysis, or in needs assessments. Additionally, the tool could easily be adapted and integrated into health and environmental impact assessments (HIA and EIA) or accountability exercises led by governments (Brousselle et al., 2024b).

Health and environmental impact assessments have been established to evaluate the impacts of major industrial projects. Environmental impact assessments began to be implemented as regulatory processes by governments as early as the late 1950s (Turnbull, 1992).

In the 1990s, we saw the emergence of a new approach, HIA, aimed at assessing impacts on health and equity of projects in the non-healthcare sectors, and suggesting mitigation measures for reducing harm and increasing positive impacts on human beings (Birley, 2011; Collins & Koplan, 2009; Wright et al., 2005). (as cited in Brousselle et al., 2024b, p. 272)

These processes are generally lengthy and do not always adopt a life-cycle perspective, often overlooking important elements that affect the environment and population health.

Using the Planetary Health Rapid Impact Assessment tool in these exercises could support the implementation of a more comprehensive and deliberative approach, while offering insights in a more timely manner (Brousselle et al., 2024b).

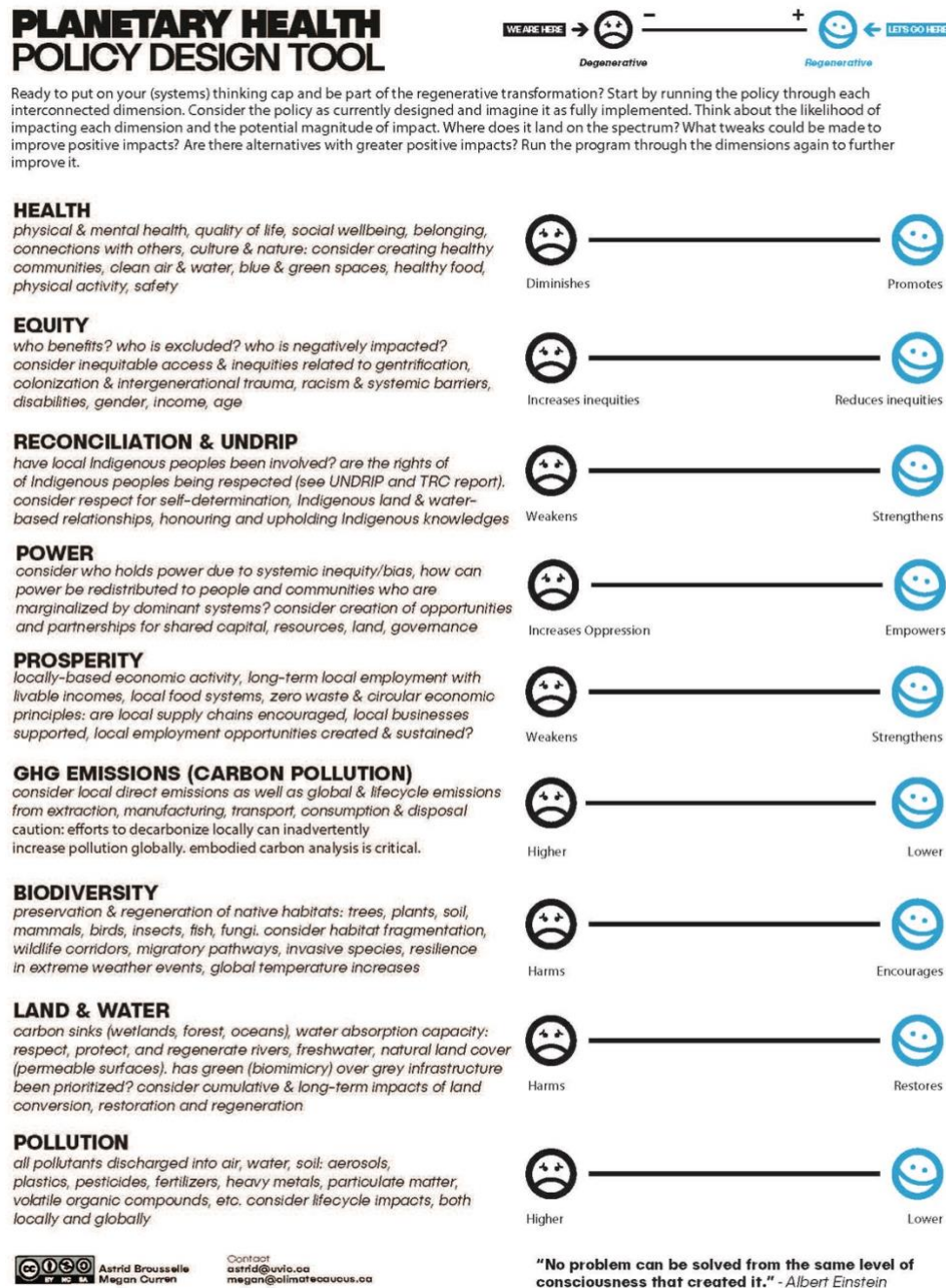
The Planetary Health Rapid Impact Assessment tool is a one-page document that can be also converted in an online survey (see Figure 3.1). Other versions have also been developed, one with a 2-step approach, rating the likelihood and the magnitude of the occurrence of impacts, following the method described in *Rapid Impact Evaluation* (Rowe, 2019a); another one using a numerical scale.

The Planetary Health Rapid Impact Assessment tool can provide guidance to individual users or can be used to survey the positions of different groups. Group survey results can be contrasted according to demographics or other group characteristics and presented to different audiences for engaging in group discussions.

The Planetary Health Rapid Impact Assessment tool has been developed in collaboration with the founders of *Climate Caucus*, a network of elected leaders in local governments and allies willing to lead transformation in their communities within planetary boundaries (<https://www.climatecaucus.ca>). The tool can be used as is or it can also be tailored to meet your own needs and evaluation context. The principles according to which the Planetary Health Rapid Impact Assessment tool should be developed and applied are presented in Exhibit 3.1.

In the Planetary Health Rapid Impact Assessment tool, planetary health determinants are identified in capital letters. To maintain a holistic perspective and avoid the "pick and choose" strategy often observed with the United Nations' SDGs, all dimensions related to natural and human systems (pollution, land and waters, biodiversity, health, equity, prosperity) must be included. Power and Governance are not determinants of planetary health but rather important dimensions to consider for the effective implementation of your intervention. For this reason, they were not initially integrated into the tool. Furthermore, additional subdimensions can be incorporated into the tool as needed. Notably, in Figure 3.1, the dimensions of Reconciliation and UNDRIP, as well as greenhouse gas emissions, typically considered subdimensions of governance and pollution, are presented as distinct dimensions. This modification was made at the request of some elected local government officials in British Columbia to reflect their accountability commitments. The notion of power was also integrated as a dimension after testing the tool with Indigenous experts. Specific language has been added under each capitalized word to help non-experts understand what each dimension encompasses. The language under each dimension can be tailored to align with the specific nature of interventions and their implementation contexts.

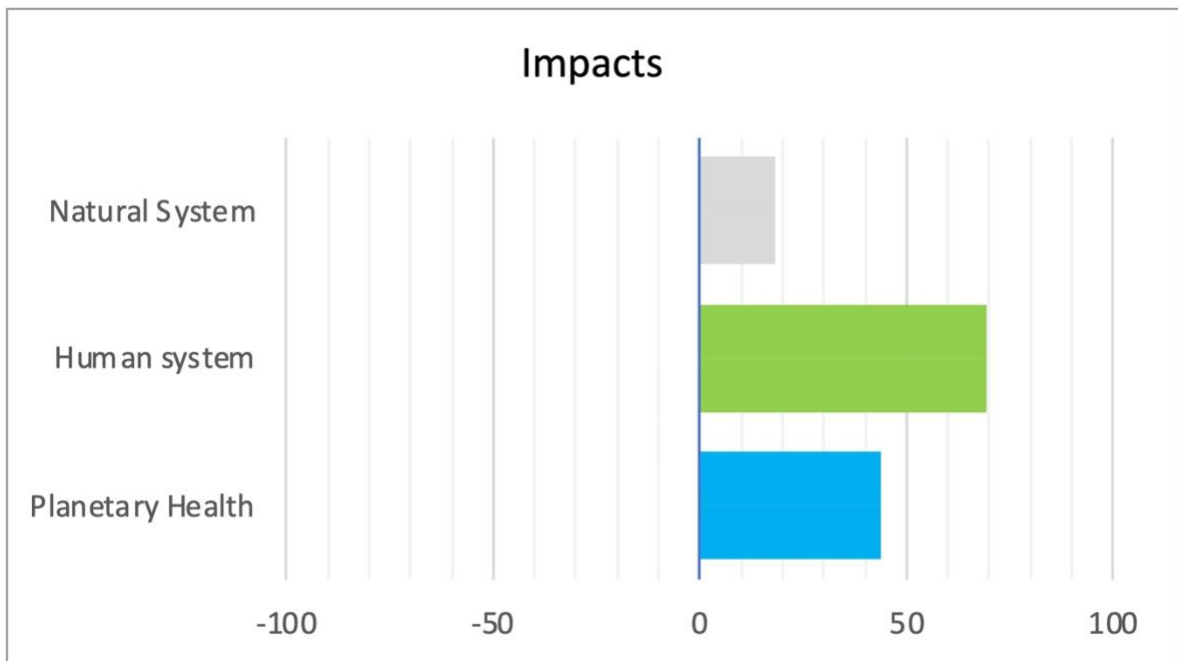
Figure 3.1 Planetary Health Rapid Assessment Tool for Local Governments in Canada



Source: Brousselle, A., Curren, M., Dunbar, B., McDavid, J., Logtenberg, R., & Ney, T. (2024b). Planetary Health: Creating Rapid Impact Assessment Tools. *Evaluation*, 30(2), 279. <https://doi.org/10.1177/13563890241227433> (This work was originally published online under the license CC BY-NC-SA: Brousselle, A., Curren M. (2023) Policy Makers For Planetary Health).

To use the tool, the user or participant is asked to think about the intervention and rate it according to each dimension. Ratings can be converted into indices based on the technique used for visual analog scales in economic evaluation (Drummond et al., 2005). The distance from the start of the scale is measured and converted into a number. If used by individuals, the rating on the scale can be converted into indices and graphs compiling impacts (see Figure 3.2 for an example). If used to survey groups' perceptions, a scorecard can be created (see Figure 3.3).

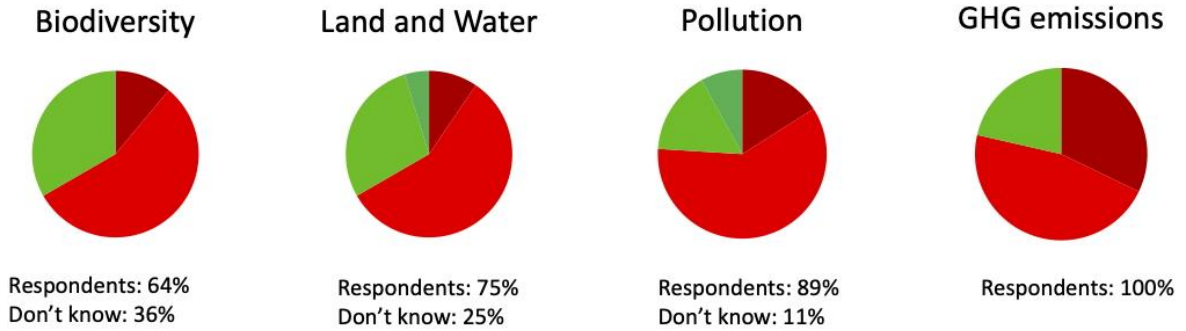
Figure 3.2 *Example of Synthetic Indices*



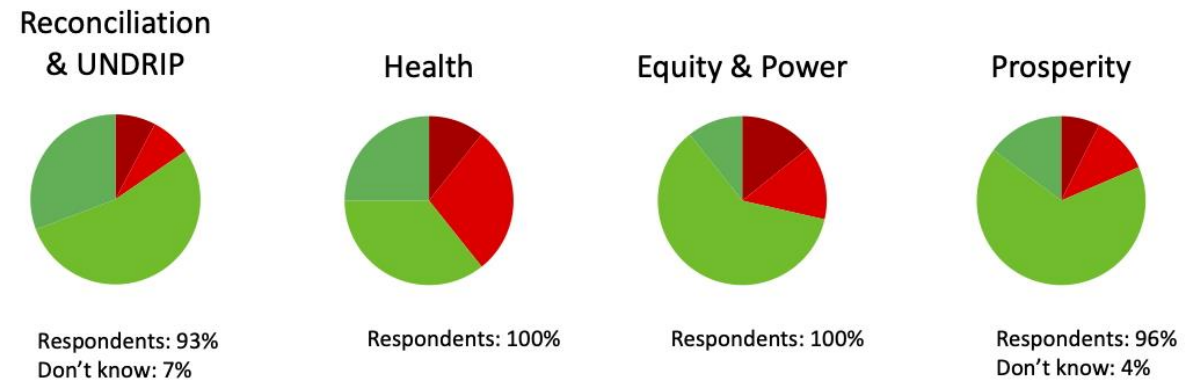
Source: Brousselle, A., Curren, M., Dunbar, B., McDavid, J., Logtenberg, R., & Ney, T. (2024b). Planetary Health: Creating Rapid Impact Assessment Tools. *Evaluation*, 30(2), 281. <https://doi.org/10.1177/13563890241227433>

Figure 3.3 *Impacts on Planetary Health Dimensions of a 2023 Conference*

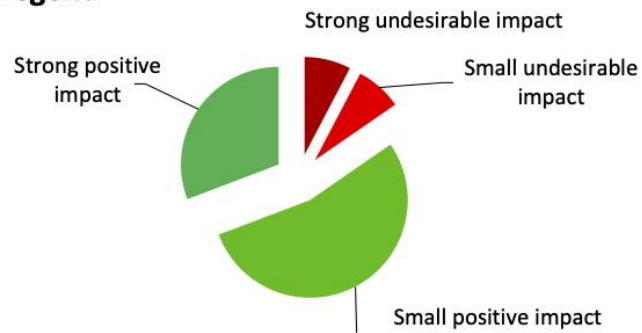
Impacts on natural systems



Impacts on human systems



Legend



Source: Brousselle, A., Curren, M., Dunbar, B., McDavid, J., Logtenberg, R., & Ney, T. (2024b). Planetary Health: Creating Rapid Impact Assessment Tools. *Evaluation*, 30(2), 283. <https://doi.org/10.1177/13563890241227433>

Exhibit 3.1: Principles for the development of Planetary Health Rapid Impact Assessment tools (PHRIA)

Co-design

Co-designing the tool in collaboration with targeted users ensures the assessment dimensions are contextualized according to their needs and that the language used to describe the dimensions is meaningful, understandable, and comprehensive. In addition, co-designing the tools according to the specificity of the context allows governments/organizations to address specific commitments. For example, it would be possible to develop a version specifically addressing the United Nations Sustainable Development Goals, if that was a priority for the organization ([Green et al., 2020](#)). However, critical dimensions for planetary health as identified in the Planetary Health Framework should all still be considered as these were identified by existing scientific knowledge.

Easy-to-use tools

In EIA and in HIA, two barriers limit their use and impact: experts are needed to conduct the study and eco-social determinants of health are not easy to understand for non-experts. As we want to encourage widespread use of PHRIA tools, a simple tool can empower people to conduct their own assessments without planetary health-related expertise or knowledge. To make the assessment exercise accessible to non-experts, PHRIA tools should include some language describing what each planetary dimension encompasses. In particular, to circumvent the difficulties experienced in HIA and EIA, it is important how the dimensions of health, equity, and power relations are described.

Deliberation and engagement

Once created, the tool should be implemented and used in deliberation with different groups such as elected officials, administrators, and decision-makers, but also diverse interest groups, such as industrial groups, Indigenous leaders, beneficiaries, and community members. Sharing the tool with a diversity of individuals and groups early in the process is a way to increase the credibility of the exercise, and to enhance deliberation around potential trade-offs. The trade-offs among which dimensions to prioritize over others wouldn't be the result of an expert's decision, instead this would be informed by the positions of various groups and the debate taking place. Furthermore, assessing a project using a PHRIA tool may also surface alternatives with potentially higher positive impacts for consideration. Larger participation would also help in controlling individual rating bias.

Life-cycle perspective

Finally, with the purpose of the intervention in mind, we would like to re-emphasize that all kinds of impacts on natural and human systems, in both the short and long term, should be included. In addition, the impact assessment of projects, programs or policies shouldn't be limited to their implementation or production processes. Limiting the scope of the assessment could derail the process. Pre-selecting a stage or part of the project for evaluation purposes inevitably leads to missing the purpose of exercise itself. A life-cycle perspective should be adopted.

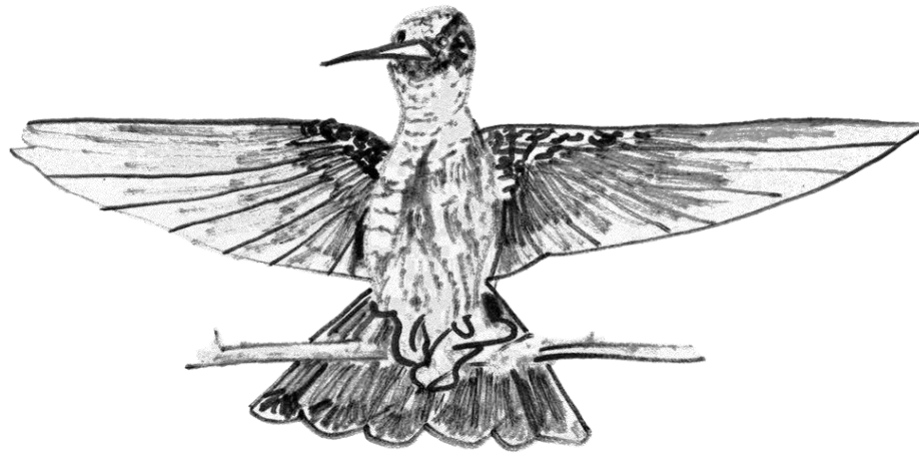
Source: Brousselle, A., Curren, M., Dunbar, B., McDavid, J., Logtenberg, R., & Ney, T. (2024b). Planetary Health: Creating Rapid Impact Assessment Tools. *Evaluation*, 30(2), 275-276, <https://doi.org/10.1177/13563890241227433>

Conclusion

For human beings, considering multiple dimensions at a time is a difficult exercise, and we need tools to support our reflections. The Planetary Health Rapid Impact Assessment Tool can be used to support the conceptualization of interventions, making clear what their strengths and weaknesses are. It will show trade-offs, which can lead to identifying ways to improve the intervention or compensate for negative impacts with other interventions. Furthermore, when used in a collective setting, for example with commissioners, participants, and communities, the results can help raise awareness on important topics, elucidate shared perspectives and discrepancies, fostering democratic engagement and transparency. This tool can be used at different stages of the intervention, from conception to post-implementation evaluation. It can support the drafting of comprehensive logic models and complement existing evaluation questions and methodologies.

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4. Evaluation: Definitions, Approaches and Questions

Evaluating is a natural thought process that enables humans to assess their environment. (House, 2015, p. 127)

Highlights

- **Evaluation definitions:** There are many definitions of evaluation, and these tend to evolve over time and vary depending on the authors and the changing role of evaluation.
- **Evaluation in the 21st century:** Evaluation can be defined as an engaging process that combines different, complementary inquiry approaches to support decision-making while contributing to sense-making, value creation, positive ecosystems, and social change.
- **Purpose:** Evaluation provides valuable information at all stages of the policy cycle, from analyzing needs to designing the intervention, supporting its implementation, and determining if it should be continued.
- **Evaluation questions:** Evaluation can focus on analyzing the relationships between the context, resources, activities, and results, or, through monitoring, it can provide information on each of these elements.
- **Bricolage:** In the Anthropocene and post-truth era, a bricolage approach to evaluation may be necessary to navigate complex and uncertain contexts.
- **Coherence:** Coherence is crucial when designing an evaluation project. It involves aligning the evaluation questions, design, and methods.

Introduction

The field of evaluation is a diverse field that spans different disciplines. Disciplines such as education, psychology, sociology, political science, clinical sciences, and others have contributed with different epistemological perspectives, methodologies, and methods. Some have contributed to niche methodologies, others have contributed to debates across disciplines and advanced researchers' thinking and practices in their respective fields. Dozens of books exist which present varied evaluation models, evaluation approaches that place emphasis on different aspects, questions, and engagement processes. It would be difficult to find two evaluators who share the same perspective on evaluation's role and on how to conduct a given evaluation project. This diversity contributes to the richness of evaluation as a field and as a set of practices. Beyond this diversity, evaluators feel they

belong to a group (a meta discipline) having a role which consists of offering a critical perspective on interventions with a focus on making the work they do useful.

As an evaluator, I greatly value this diversity. I appreciate being exposed to a multitude of approaches, ideas, and positions, and having the privilege to debate with those who share a willingness to improving our practices and societies—enhancing agility and reflexivity in refining evaluation methods. This book proposes an evaluation model based on the foundation established by many authors who have significantly contributed to the field. I won't impose a specific role to evaluation or a definition, as I value the richness of the current diversity. Instead, I hope to offer flexible avenues for integrating impacts on planetary health in all our projects, while respecting this diversity of perspectives.

Definitions

Evaluation is probably as old as the human race, dating from the time humans first made a judgment about whether building campfires and using weapons helped them to survive. Indeed, evaluation is an essential human activity that is intrinsic to problem solving, as humans (a) identify a problem, (b) generate and implement alternatives to reduce its symptoms, (c) evaluate these alternatives, and then (d) adopt those that results suggest will reduce the problem satisfactorily. As humans, we will always be faced with problems whose solutions require evaluation so that effective action can be taken. (Shadish & Luellen, 2005, p. 183)

The word evaluation has the same etymology as value. Evaluation is about assessing/appraising the value of things. The Merriam-Webster's defines 'evaluation' as "to judge the value or condition of (someone or something) in a careful and thoughtful way".

The field of evaluation is diverse and offers different definitions. Some of these are more focused on systematic analysis principles, while others are more versed on identifying shared solutions. For example, the *Encyclopedia of Evaluation* (Mathison, 2005) offers the following definition:

Evaluation is an applied inquiry process for collecting and synthesizing evidence that culminates in conclusions about the state of affairs, value, merit, worth, significance, or quality of a program, product, person, policy, proposal, or plan. Conclusions made in evaluations encompass both an empirical aspect (that something is the case) and a normative aspect (judgment about the value of something). It is the value feature that distinguishes evaluation from other types of inquiry, such as basic science research, clinical epidemiology, investigative journalism, or public polling. (Fournier, 2005, pp. 139-140)

This definition contrasts with that provided by House and Howe in their book *Values in Evaluation and Social Research* (1999):

The aim is for evaluators to use procedures that incorporate the views of insiders and outsiders, give voice to the marginal and excluded, employ reasoned criteria in extended deliberation, and engage in dialogical interactions with significant audiences and stakeholders in the evaluation. (House & Howe, 1999, p. IX introduction)

I personally also like the definition from Mark, Henry and Julnes (2000):

Evaluation assists sensemaking about policies and programs through the conduct of systematic inquiry that describes and explains the policies' and programs' operations, effects, justifications, and social implications. The ultimate goal of evaluation is social betterment, to which evaluation can contribute by assisting democratic institutions to better select, oversee, improve, and make sense of social programs and policies. (Mark et al., 2000, p. 3)

These definitions show how much the representation of the evaluative exercise can vary according to the evaluator's approach and values.

The definition used in the previous book I co-edited and co-wrote (Brousselle et al., 2011b) elaborates on this point:

To evaluate is basically to make a value judgment on an intervention by implementing an inquiry design capable of providing scientifically valid and socially legitimate information about that intervention or any of its components, the objective being to ensure that the various actors concerned, whose perspectives can be different, are able to take a stand on the intervention so that they can construct, individually or collectively, a judgment that can be translated into actions. (Free translation, Champagne et al., 2011c, p. 38)

These definitions are still valid, but are they enough for our new world context? As emphasized in the following collective reflection:

Evaluators need to adopt an open mindset, question predetermined myths, value diverse cultures, and adopt a relational, inclusive, equitable, and respectful approach. Evaluators need to engage with communities, to adopt community-driven approaches, while bringing a holistic perspective in the evaluation (Evans et al., 2020). Evaluators are seen as adopting a broad role where projects, programs and policies, and systems are questioned, where barriers to change are targeted, and where inequities and injustices are identified. They are also people who facilitate conversations in communities, gather and analyze data, and give back results to the community for dialogue and deliberation. They empower communities, support their self-determination, and, within communities, elevate more marginalized voices. They also need to recognize that there will be occasions when it is not appropriate for them to lead an evaluation, that it may be led entirely by community leaders, and instead they are an

ally. Furthermore, evaluators are responsible for sharing with the larger community of peers and contributing to social change. Evaluation should be used to initiate and foster social movements, working across isolated evaluation experiences. In this role, evaluators engage in highlighting harm, environmental impacts, and injustices and in taking positions to support action not only for the public good—as was the original goal of the field—but for planetary health (Brousselle & McDavid, 2021). This marks an important change in the ontology of evaluation as it enlarges the purpose of evaluation practice beyond responding to commissioners' interests, beyond the public good, to an even larger conception of our role, and with a responsibility toward nature, while being accountable to communities. Adopting such an ontology of practice fundamentally implies that the evaluator is standing for the value of evaluation, which can no longer be an instrument of the system but a way to reinforce democratic and community processes: Only then will evaluators have the capacity to contribute to transformative change. (as cited in Brousselle et al., 2024a, p. 188)

Another challenge to consider is the growing polarization in society, which often leads to irreconcilable perspectives. In a post-truth era where facts are contested, can we reach a collective understanding and agreement on what the problem is and its potential solutions? If not, how can evaluators navigate post-truth contexts, and what role do they play? The evaluator's ability to document and expose various positions remains important. Although the topics covered by the evaluation may not always be directly affected by the polarized context, building some form of shared understanding is still possible in most cases. But what if the topic involves issues where certain groups have irreconcilable positions? How will this impact the role of evaluators? Will their legitimacy itself be contested? These are some of the many questions raised by the growing context of organized disinformation and polarization. We are entering an era of significant uncertainty. Definitions of what evaluation is have evolved over time alongside the field itself. We can expect the role of evaluation to continue changing in the coming years, with new practices shaping future definitions of evaluation.

As a researcher, I value scientific processes, grounded in the belief that a reality exists, and can be partially understood using scientific methodologies. I am not willing to compromise on the existence of certain phenomena that are widely supported by scientific evidence, such as climate change. At the same time, I acknowledge that doubt is a core concept in the construction of scientific knowledge. Additionally, debate plays a natural and important role in knowledge construction. However, I also recognize the existence of irreconcilable perspectives and the need to shape processes accordingly. My position is pragmatic, as I adopt the view that evaluation processes are largely bricolage.

Bricolage goes beyond the notion of mixing methods, or mixed-methods, which is focused on combining different types of data. It includes combining elements from different paradigms and enquiry traditions, and adapting methods and tools as needed. It includes attention to the context of the evaluation in terms of the nature of what is being evaluated and its setting, and the nature of the evaluation and its questions and

purposes. Bricolage is more likely to be used in an emergent evaluation design where initial findings and understandings can be used to inform subsequent design. (BetterEvaluation, 2025)

As Margaret Hargreaves (2021) explains:

I see bricolage as a *transdisciplinary, mixed paradigm* approach for reconciling the different ontological (“real world”) and epistemological (“theory of knowledge”) perspectives that complexity science and systems thinking bring to evaluation. I use bricolage to strengthen the design of complexity- and systems thinking-informed evaluations by weaving multiple paradigms into all four elements of evaluation design: (1) conceptual frameworks, (2) inquiry frameworks, (3) methods and metrics, and (4) evaluation values and valuing. (Hargreaves, 2021, p. 114)

Later in her article, she notes that evaluation bricolage serves an important function, creating value:

A new evaluation approach that is emerging is not about *determining value* (providing an objective appraisal of the value or worth of a program model based on predetermined criteria), but about contributing to change by *creating value* (engaging proactively in ongoing communication with multiple stakeholders about evaluation findings while paying attention to the organizational, institutional, and community contexts in which the evaluation decisions are being made, and actions are being taken. (Hargreaves, 2021, p. 122)

In a post-truth era and within the current environmental and social context, which demand radical changes, evaluation can be defined as an engaging process that combines various complementary inquiry approaches to support decision-making, while also contributing to sense-making, value creation, positive ecosystems, and social change. Evaluation aims at providing credible information to make informed and socially acceptable decisions about products, projects, programs, and policies –called *interventions* in this book. Evaluation can help align interventions with community needs, support evidence-informed design of interventions, provide information on what works and what doesn’t according to the context, inform on the larger impacts of interventions, support informed decision-making on allocation of resources, and monitor progress.

Evaluation Approaches

Over the past century, evaluation practices have expanded and diversified a lot. Approaches and methods have evolved. It is a field where one will find a variety of definitions and evaluation questions reflecting the perspectives of those contributing to the field. Evaluation experts often use the same terms but with different meanings, organize and frame evaluation questions in varying ways, and have various ways of representing their evaluation approach. The field has also engaged in major philosophical and methodological debates, gathering thinkers in quantitative, qualitative and mixed methods research, and has made strong contributions to research designs. There are many ways to evaluate interventions, and one needs to be prepared to make some explicit choices and to discuss them. It is a field where debate is welcome. All evaluators consider themselves as constant learners in methodologies, methods, and engagement.

Shadish et al. (1991) contrasted (then) existing evaluation approaches and identified five core dimensions that any evaluation model addresses, albeit differently and with more or less emphasis: use, social programming, knowledge, values, and practice. Inspired by this work, Alkin (2004)'s work titled *Evaluation Roots* where he offered a tree representation to position and group well-known evaluation approaches. The tree had three main branches (use, methods, and valuing) and two roots (accountability and control, and social inquiry). This representation attempted to classify evaluation approaches in a simple way; however, it lost the fact that each evaluation approach positions itself according to the five dimensions identified by Shadish and colleagues (1991).

In 2023, Mertens published a critique of the tree, emphasizing that Alkin's (2004) tree did not include Indigenous' voices and those of people of colour (Mertens, 2023). Mertens proposed the inclusion of Indigenous and transformative approaches that pursue "social, economic, and environmental justice through evaluation" (Mertens, 2023, p. 12). She proposed that evaluation approaches be compared on their assumptions about axiology (assumptions related to the nature of ethics and values), ontology (the nature of reality), epistemology (the nature of knowledge and the relationships between the evaluator and stakeholders), and methodology (the nature of systematic inquiry) to make explicit the beliefs and values underpinning our approaches (Mertens, 2023).

In 2023, M.Q. Patton emphasized that each evaluation theory addresses values, methods and use, with contrasted configurations of approaches for each of these component, proposing that evaluation theories shouldn't be conceptualized as a tree, but rather as a forest (Patton, 2023a, 2023b), somewhat echoing the original analysis of Shadish, Cook and Leviton (Shadish et al., 1991).

Interestingly, in the rich discussions following the publication of the evaluation tree, the roots of the evaluation tree (accountability and control, and social inquiry) have attracted less attention. Instead, the focus has gravitated toward the branches (values, use and methods), as though these were more important, overlooking the full set of five core dimensions identified by Shadish and colleagues in their early work (Shadish et al., 1991).

In practice, evaluators tend to apply similar approaches in comparable contexts, reflecting their training and their specializations in the field. Fewer evaluators adapt the choice of approach to the evaluation context. Contandriopoulos and Brousselle (2012) have shown that there seems to be a fit between the characteristics of the context and the appropriateness of the choice of approach. Evaluators seem to be drawn to practice in contexts of similar characteristics, hence using and advocating for the same family of approaches. However, the emerging context of higher polarization, widespread disinformation, and the de-credibilization of scientific expertise creates a need for evaluators to adapt their practice, becoming skilled facilitators capable of using bricolage in the design of their evaluation projects. This new expectation underscores the need to train evaluators in developing their ability to mobilize different approaches according to the characteristics and dynamics of their specific evaluation contexts.

Exposure to diverse approaches occurs through engagement in the field—via readings, participation in training events, attendance at conferences, and practical application—broadening the range of possibilities in the evaluation process. Understanding the principles of diverse approaches—and their suitability for different contexts of evaluation—enhances effectiveness and adaptability as an evaluator. This comes with time and experience by reading different authors, being exposed to different currents of thought, and working with different evaluators on diverse projects.

When to Evaluate and for What Purpose?

Evaluation can be used for a multitude of purposes and at different stages of an intervention.

Evaluation is often presented as a step in the policy cycle, taking place after the implementation of an intervention, intended to provide information to guide revisions as the cycle begins again. This representation is outdated and misleading. It doesn't account for the vast potential of evaluation to contribute to policymaking at all stages of an intervention. Instead of sitting in the policy cycle between implementation and revisions, it is more appropriate to locate evaluation in the centre of the cycle, informing policy and program design, implementation and revisions.

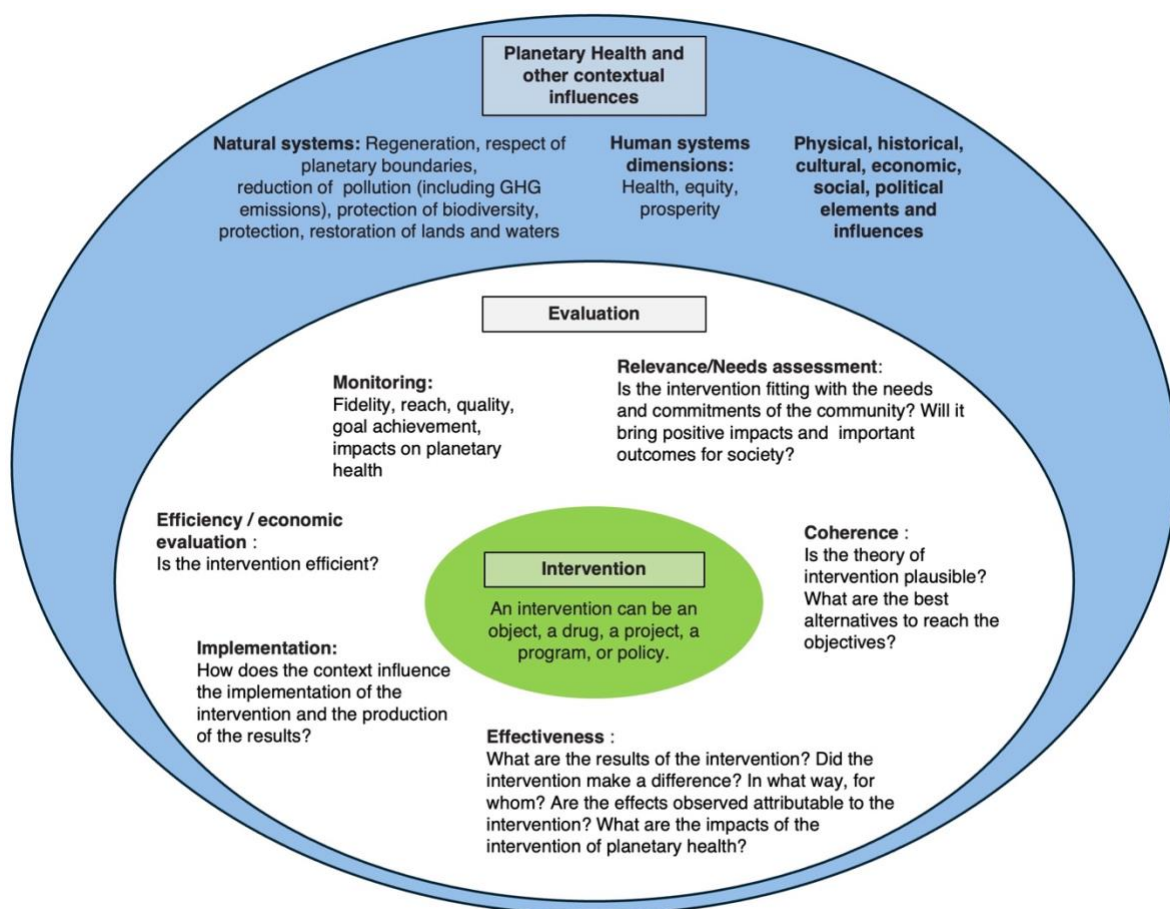
Before an intervention is developed, evaluation can be used to identify needs and find the best fit for the contextual characteristics. Or, it can support the design stage of an intervention by identifying what would work best in a particular context, based on the scientific literature (logic analysis). Evaluation can be a process to optimize the design and implementation of the intervention in dynamic contexts, as in Developmental Evaluation (Patton, 2011), or to achieve transformational objectives as empowerment, emancipation, or advocacy (Brousselle & Champagne, 2011; Mertens, 2023). It can be used as a formative exercise to improve an intervention or its implementation, or as summative exercise to decide whether a program merits investment (Mark et al., 2000). It can guide decisions on what interventions to collectively support or stop funding, as in spending reviews or economic evaluations, for example). Evaluations “can be undertaken for the express purpose of supporting or building the image of a program” (Palumbo, 1987, p. 12). They can also contribute to the generation of generalizable knowledge (Brousselle et al., 2011b; Mark et al., 2000; Patton, 1997). These evaluative purposes are not exclusive, and an evaluation project can contribute knowledge for different purposes at different stages (Mark et al., 2000).

Evaluative Questions

Evaluation is at the intersection of research and policy making/decision-making. A distinction is generally made between evaluative research and monitoring (Brousselle et al., 2011b). Evaluative research analyzes causal relations, specifically the links between the components of the intervention, including the results. Monitoring compares components and aspects of the intervention to some objectives or targets and to record progress. Monitoring provides information on the resources dedicated to the intervention and its structure, the activities (also called process), and the results.

Several questions exist in evaluation. Although authors present and regroup evaluation questions in different ways, most models include the same core questions. The typology and definitions used in this book are inspired and adapted from what was suggested in *L'Évaluation: Concepts et Méthodes* (Brousselle et al., 2011b). Planetary health considerations have been introduced in each one of them (see Figure 4.1 and the following chapters).

Figure 4.1 *Evaluation Questions*



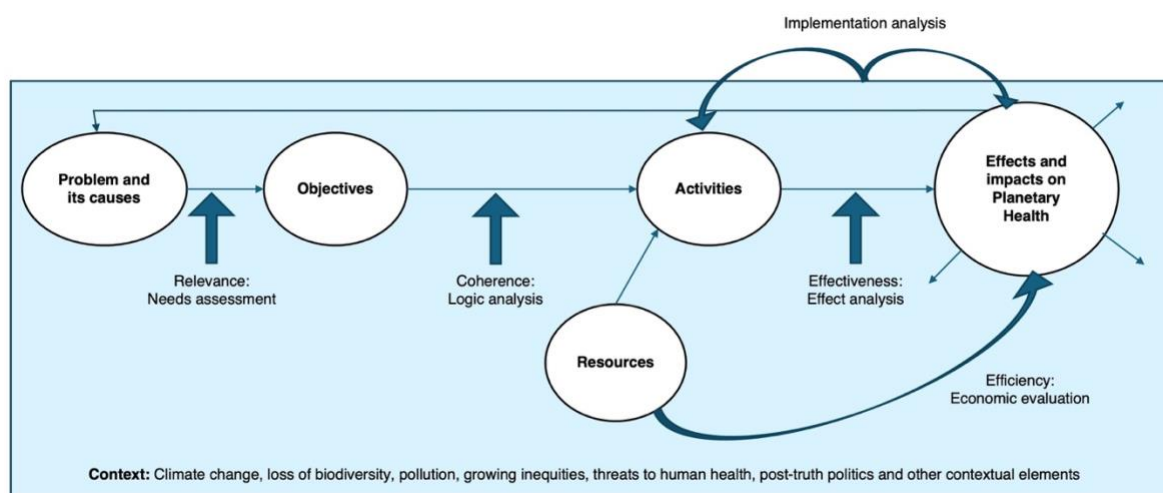
Evaluative Research Questions

Evaluative research includes questioning in five categories (see Figure 4.2):

- 1) Relevance: needs assessment
 - a) What is needed to meet the needs of the community (ex-ante)? Is the intervention fitting with the needs and commitments of the community (ex-post)?
 - b) Are the objectives of the intervention pertinent particularly when considering the socio-ecological context? Are the right causes targeted? Is the right population targeted?
 - c) Are the right partners involved, or should other partners be involved?
- 2) Coherence: logic analysis
 - a) Is the program intervention plausible, given what is known from theory and practice to achieve the intended effects (direct logic analysis)

- b) What are plausible interventions or alternatives to achieve the intended effects?
- 3) Effectiveness: effect analysis, contribution analysis and impact evaluation
 - a) What are the results of the intervention? Did the intervention make a difference and for whom?
 - b) Are the observed effects attributable to the intervention?
 - c) What are the impacts of the intervention on planetary health?
- 4) Efficiency: economic evaluation
 - a) Is the intervention efficient?
- 5) Implementation: implementation analysis
 - a) How does the context influence the implementation of the intervention and the production of the results?

Figure 4.2 *Evaluative Research Questions*



Source: Adapted from Champagne, F., Contandriopoulos, A., Brousselle, A., Hartz, Z., & Denis, J. L. (2011c). L'évaluation dans le domaine de la santé : concepts et méthodes. In A. Brousselle, F. Champagne, A.-P. Contandriopoulos, & Z. Hartz (Eds.), *L'évaluation dans le domaine de la santé : concepts et méthodes* (2nd edition ed., pp. 35-56). Presses de l'Université de Montréal: 62.

Monitoring Questions

Monitoring is used to assess the fidelity of the intervention in comparison to the original plans (which includes the costs), the reach, the quality of the intervention, whether the goals were achieved, and the impacts on planetary health. Table 4.1 summarizes the different options for monitoring the intervention.

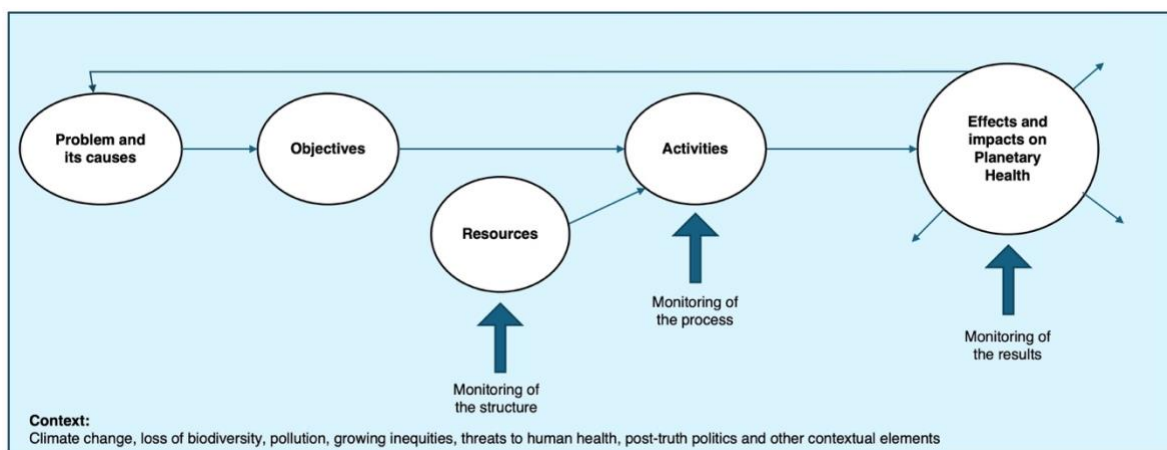
Table 4-1 Possible Focus for Monitoring

	Fidelity (Includes costs)	Reach	Quality	Goal achievement	Impacts on planetary health
Resources/Structure	x				
Process	x	x	x		
Results				x	x

Source: Adapted from Champagne, F., Hartz, Z., Brousselle, A., & Contandriopoulos, A. P. (2011d). L'appréciation normative. In A. Brousselle, F. Champagne, A. P. Contandriopoulos, & Z. Hartz (Eds.), *L'évaluation: concepts et méthodes. Deuxième édition mise à jour*. Les Presses de l'Université de Montréal: 98.

Note that monitoring questions focus on the intervention's components, whereas evaluative research questions examine the relationships or links between those components (see Figures 4.2 and 4.3).

Figure 4.3 Focus of monitoring



Source: Adapted from Champagne, F., Contandriopoulos, A., Brousselle, A., Hartz, Z., & Denis, J. L. (2011c). L'évaluation dans le domaine de la santé : concepts et méthodes. In A. Brousselle, F. Champagne, A.-P. Contandriopoulos, & Z. Hartz (Eds.), *L'évaluation dans le domaine de la santé : concepts et méthodes* (2nd edition ed., pp. 35-56). Presses de l'Université de Montréal: 62.

Be aware that assessing the effects in a monitoring exercise is different from an effect analysis. An *effect analysis* will analyze the causal relationship between the intervention and the observed effects. In monitoring, no causal relationship is assessed; effects are monitored but could potentially be due to another element than the intervention, such as another competing intervention or a change in the characteristics of the context.

Understanding the distinction between evaluative research and monitoring is important. However, in real life evaluators will often mix the use of the two approaches as they are different but complementary ways of analyzing an intervention. For example, in implementation analysis, the first stage may include an assessment of the program's implementation (fidelity and reach) before explaining the implementation with a process analysis (Patton, 1997; Scheirer, 1994). The distinction between evaluative research and monitoring is mostly a heuristic approach to learning evaluation.

Conclusion

Coherence is key when conceiving an evaluation project. Coherence refers to the right alignment between evaluation context, questions, approaches, and methods. There is no real starting point to align these pieces and the final proposal is often the result of many adjustments and negotiations.

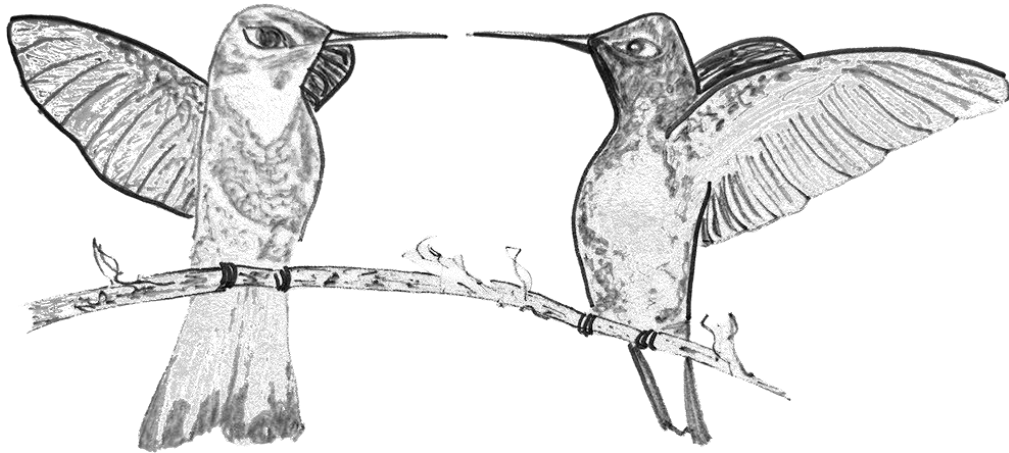
Finding the right combination requires a deep understanding of the context and of the expectations of the commissioners and various groups involved. Being knowledgeable about different evaluative approaches will increase the evaluator's agility for choosing among the many possibilities. Once the evaluation questions have been identified in collaboration with the commissioners, the evaluator will need to identify the research design for answering the question and then identifying the methods to use. The research design will depend on the evaluation question. For example, if you plan to conduct an effect analysis, you will likely choose between experimental designs, quasi-experimental designs, or contribution analysis. If you plan to conduct a logic analysis, you will use a knowledge synthesis approach as your study design. Evaluation questions are key in determining the study design and the study design will be key in choosing appropriate methods. In some contexts, the choice may be decentralized or co-determined with multiple parties; in such cases, the evaluator acts a facilitator offering guidance on what approaches would work or not work for addressing potential questions.

Given the advocacy, sense-making and value-creation roles that evaluation can play, the evaluator also needs to remain mindful of the broader context and consider which parameters can be influenced to ensure the evaluation has a positive impact. In particular, participative and collaborative processes, culturally responsive practices, or engagement processes can be important components of the project design, beyond evaluation questions. However, the ability to choose what would be an adequate approach for a given context depends on the evaluator's ability to use different models and their awareness and depth of understanding the context. As evaluators, we would like this first phase to be rational and straightforward. The reality is much messier.

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5. Preparing for the Evaluation

I now posit that rigorous evaluative thinking combines critical thinking, creative thinking, inferential thinking, and practical thinking.

Critical thinking demands questioning assumptions; acknowledging and dealing with preconceptions, predilections, and biases; diligently looking for negative and disconfirming cases that do not fit the dominant pattern; conscientiously examining rival explanations; relentlessly seeking diverse perspectives; and analyzing what and how you think, why you think that way, and the implications for your inquiry (Klein, 2011; Loseke, 2013).

Creative thinking invites putting the data together in new ways to see the interactions among separate findings more holistically; synthesizing diverse themes in a search for coherence and essence while simultaneously developing comfort with ambiguity and uncertainty in the messy, complex, and dynamic real work; distinguishing signal from noise while also learning from the noise; asking wicked questions that enter into the intersections and tensions between the search for coherent meaning and persistent uncertainties and ambiguities; bringing artistic, evocative, and visualization techniques to data analysis and presentations; and inviting outside-the-box, off-the-wall, and beyond-the-ken perspectives and interpretations.

Inferential thinking involves examining the extent to which the evidence supports the conclusions reached. [...]

Practical thinking calls for assiduously integrating theory and practice; examining real-world implications of findings; inviting interpretations and applications from nonresearchers (e.g., community members, program staff, and participants) who can and will apply to the data what ordinary people refer to as “common sense;” and applying real-world criteria to interpreting the findings, criteria like understandability, meaningfulness, cost implications, and implications to address societal issues and problems.

In combining and integrating these ways of thinking, *evaluative thinking* forces clarity about the inquiry purpose, who it is for, with what intended uses, to be judged by what quality criteria; being explicit about what criteria are being applied in framing inquiry questions, making design decisions, determining what constitutes appropriate methods, and selecting and following analytical processes; and being aware of and articulating values, ethical considerations, contextual implications, strengths and weaknesses of the inquiry, and potential (or actual) misinterpretations, misuses, and misapplications. In contrast with the perspective of rigor as strict adherence to a standardized process, evaluative thinking emphasizes the importance of understanding the sufficiency of rigor relative to context and situational factors (Clarke, 2005; Patton, 2012). (as cited in Patton, 2018, pp. 21-22)

Highlights

- **Coherence is key:** The evaluation plan needs to be logical and coherent. The chosen evaluation question will shape the evaluation design, which will, in turn, influence the choice of methods.
- **Alignment with the context:** Evaluation use is largely determined by the context. The topic, the evaluation context, and key actors must be identified and understood before drafting the evaluation plan. Approaches should fit the characteristics of the context.
- **Co-design:** Community-based evaluations, particularly those involving Indigenous peoples and communities, should be co-designed from the outset.
- **Simplicity is key too:** The evaluation project should be designed to be as simple and concise as possible.

Introduction

An evaluation needs to be carefully prepared.

Designing evaluations requires making clear choices about many things including, for example: the purpose of an evaluation; the resources needed; required skills; ethical guidelines; data collection and analysis procedures; and how to encourage evaluation use. Getting these choices right at the beginning is essential to ensure any evaluation will be of good quality. (Stern, 2015, p. 10)

An evaluation project is also a dynamic process. One can expect that some of the process won't go as planned. If there is clear understanding of the political context, agreement on the objectives, and if the evaluation project was developed with care to ensure strong coherence, one will be able to adapt the project according to changing conditions. A detailed plan that is agreed upon in advance of starting the project can be used as a compass when challenges arise. Sometimes, during the field work, one can be caught in day-to-day dynamics. The evaluation plan will help provide direction on how to maintain the project's coherence even if some changes need to be made. "Effective evaluators learn to adapt to changed conditions" (Patton, 1997, p. 118). Below we will review elements that need to be taken into consideration when preparing for an evaluation.

Evaluation Use and the Importance of Mapping the Context

A useful evaluation is one that is influential. The field has extensively debated the importance of use and its determinants. Various types of evaluation use have been identified: (1) *symbolic use* is when evaluation is caught in a political game; (2) *instrumental use* is when results are used to contribute to policy or decision-making; and (3) *process use* when the process itself can be used to achieve some objectives such as empowering communities (Contandriopoulos & Brousselle, 2012). Even if the evaluation project is planned with specific expected uses in mind, some users may focus on elements of the project that we, as evaluators, did not anticipate. Of course, use can also change over time, depending on components of evaluation projects (Patton, 1997). Users vary too; they are not a homogenous group and the evaluator may have little control over the aspects of the project that are used and/or who uses them. And, in some cases, no use will occur and the evaluation project is forgotten as soon as it is finished.

Use is mainly determined by the characteristics of the context (see Figure 5.1) (Contandriopoulos & Brousselle, 2012). This explains why some evaluators experience difficulties using the results to influence the situation studied. It is not the process that seems to be the main determinant of use, but rather the characteristics of the context. Long-standing debates in the field of evaluation have centered around the issue of use, one of the most notable being the debate between Patton and Weiss, both highly respected evaluators (Patton, 1988; Weiss, 1988). Patton argued that the process was a main determinant of use, while Weiss suggested that the process could have very little impact. This debate can be better understood by analyzing the characteristics of the contexts in which Weiss and Patton worked.

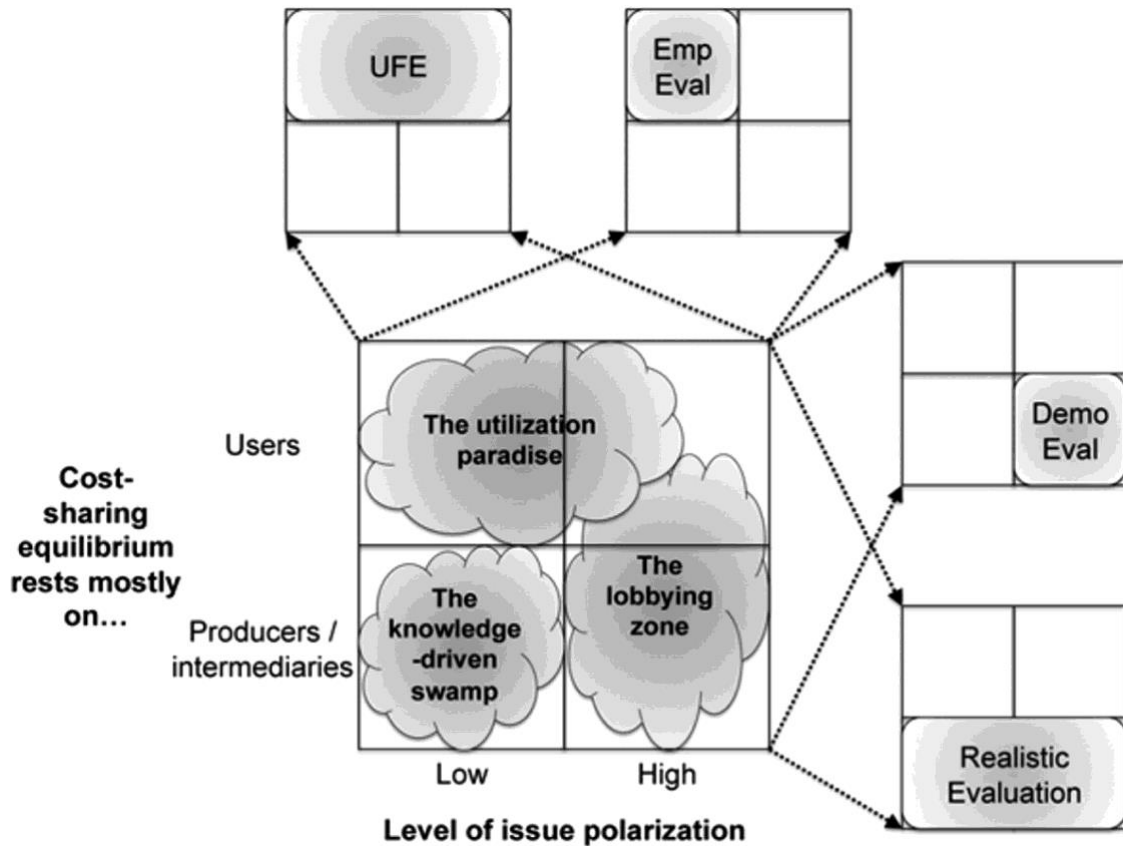
Some contexts are more favourable to use, others less. “As soon as users are willing to bear most of the costs, the potential for use increases dramatically” (Contandriopoulos & Brousselle, 2012, p. 70). Collaborative and participatory approaches work well in those favorable contexts. However, these approaches are unlikely to work as expected in other types of contexts.

Low-polarized contexts in which the evaluator bears most of the costs are associated with very little potential for use. Results produced in this quadrant [as shown in Figure 5.1 and described as ‘the knowledge-driven swamp’] are likely to join the ever-growing pile of ignored advice and shelved reports. (Contandriopoulos & Brousselle, 2012, p. 70)

In practice, evaluators often specialize in a particular evaluation approach and tend to choose to work in contexts which are a fit for these approaches. Ideally an evaluator should

be able to work in a diversity of contexts and choose the evaluation approach that fits the context.

Figure 5.1 *Evaluation Use, Evaluation Models and Contextual Characteristics*



Source: Contandriopoulos, D., & Brousselle, A. (2012). Evaluation Models and Evaluation Use. *Evaluation*, 18(1), 70. <https://doi.org/10.1177/1356389011430371>

The current post-truth context is creating extraordinary conditions and creating new challenges for evaluators.

Given the importance of resources poured into engineered information and opinion manipulation, evaluators will not be able to counterbalance the flow of disinformation and discrediting attempts; however, they will be able to anticipate resistances and adapt their evaluation processes accordingly. Furthermore, it should help them focus on what matters the most, without being instrumentally distracted by useless pseudoscientific debates. Again, one of the effective strategies of contemporary propaganda approaches is to instill doubt in peoples' minds by keeping researchers/evaluators busy

arguing about details, instead of uniting their efforts on what matters the most. Understanding the strategies used and being aware of the current disinformation trends should help evaluators ignore the strategies of agitation, staying away from useless debates, and instead focusing on the most important information and actions.

Mapping the context and understanding the configuration of power, influences and beliefs is a pre-condition for being effective as an evaluator and for choosing appropriate processes (Gorski & Yamey, 2021). (as cited in Brousselle, 2024, p. 544).

Drafting an Evaluation Plan

“An evaluation plan is a written document that describes how you will monitor and evaluate your program, as well as how you intend to use evaluation results for program improvement and decision making” (Centers for Disease Control and Prevention, 2011, p. 1). It consists of a written document of a few pages that results from extensive consultations to find the right arrangement to fit the evaluation purpose and context.

Elaborating a plan will help you prepare but also negotiate agreement among different uses and participants on the expectations. This step can support building trust among the different actors. It can also be a safeguard for potential subsequent influence from different actors. This entire exercise begins with the expressed interest of a commissioner, who has typically identified an evaluation question. Before proposing an evaluation plan, the evaluator must conduct their own research to gain a rapid yet thorough understanding of the topic and the evaluation context.

Coherence between the different components of an evaluation plan is key. Many evaluation questions, approaches, and methods exist. Therefore, finding an adequate combination of plan elements to meet the characteristics of the context is essential (see Figure 5.2).

Figure 5.2 *The Design Triangle*



Source: Adapted from Stern, E. (2015). *Impact Evaluation. A Guide for Commissioners and Managers*. https://www.bond.org.uk/wp-content/uploads/2022/08/impact_evaluation_guide_0515.pdf

Digging into the Topic

What is this project about? What is the existing state of knowledge on the problem the intervention or similar interventions target? What is the scientific consensus and what are potential tensions or disagreements? What impacts on planetary health can be anticipated?

Conducting a short review of the scientific literature and summarizing the information is the first step to familiarize yourself with the project topic. Some topics are very broad, and you will need to narrow the scope of your search. If you have no expertise on the topic, consider

consulting an expert to get guidance on the most recent scientific knowledge and on how to orient your search. Be mindful that online resources can be biased. When you conduct a web search try to prioritize sites that make scientific articles accessible publicly, for example, PubMed in the health sector (<https://pubmed.ncbi.nlm.nih.gov>). Widely available and peer-reviewed information ensures both credibility and barrier-free access to information for all users.

Mapping the Context

Mapping the context includes:

(1) Assessing the project's level of sensitivity to post-truth strategies: Does it threaten the existing power/authority structure? Are there topics related to the subject of the evaluation which might be the subject of dissent or may be targets for polarization?

(2) Mapping diverse actors/communities, interests in the topic and in the evaluation and their positions, with regards to the topic under study. For this stage, identifying language artifacts might help in identifying frames of thoughts and beliefs (Yanow, 2000);

(3) Mapping the 'architecture of their similarities and differences with respect to the issue' (Yanow, 2000, p. 3). Interpretive approaches to policy making can help in analyzing communities' diverse positions and in applying the configuration of values, beliefs and interests (Fischer, 2019, 2021; Yanow, 2000).

This mapping exercise will help understand the level of discrepancy in systems of beliefs and inform how the evaluation process should be designed. It should also identify if common ground can be identified and strategically used. Finally, this exercise should help the evaluator anticipate potential attacks, including via social media. (as cited in Brousselle, 2024, pp. 544-545)

Identify Who Should be Involved

Identifying who should be around the evaluation project table is an important step. The evaluation should ask if some voices are currently missing and who should be invited.

Guba and Lincoln (1989) identified three main groups of stakeholders in the evaluand/intervention: the agents, those 'involved in producing, using and implementing the evaluand' (Guba & Lincoln, 1989, p. 40), the beneficiaries, those who 'profit in some way from the use of the evaluand' (Guba & Lincoln, 1989, p. 40), and the victims, those who are negatively affected by the use of the evaluand' (Guba & Lincoln, 1989, p. 41) and we should add, those who are excluded from benefitting from the evaluand. The scope of the current environmental challenge is such that it affects all groups in the population and work needs to be done on how we identify who should be involved. Different perspectives need to be systematically introduced, such as Indigenous perspectives, but also voices from groups usually excluded from our democratic

(electoral) systems such as youth (Montrosse-Moorhead et al., 2019). (as cited in Brousselle & McDavid, 2021, pp. 175-176)

Determining the Evaluation's Focus

Once the previous information is gathered, the evaluator can, in collaboration with the commissioner and potentially other actors, discuss the purpose and intended use of the evaluation. This process supports the confirmation or formulation of evaluation question(s) and facilitates the selection of an approach that best aligns with the expectations and context.

At this stage we suggest evaluators include a discussion about integrating planetary health considerations, specifically the intervention's impacts on human and natural systems. By leading these conversations evaluators can raise awareness of the importance of adopting a holistic evaluation approach and the potential for designing and implementing interventions with this aim. Raising this option early will facilitate getting an agreement on the type of assessment done.

International commitments exist to protect and promote biodiversity and to reduce greenhouse gas emissions (United Nations, 2015, 2022). Solutions also exist in all sectors and at all levels from the individual to community to regional, even for corporations, and governments that are establishing policies and regulations. When an organization takes steps to first assess the whole impact of their intervention(s) and then takes action to enhance its positive impacts on the environment and population, they can be positioned favorably with funders and other organizations. More organizations are becoming accountable for their program impacts (see for example Environmental, Social and Governance [ESG] investment criteria). The planetary health assessment doesn't need to be extensive. Planetary health dimensions can be included at all evaluation stages starting with the logic model.

The approaches and tools presented in this book are intended to support evaluators in offering a planetary health perspective to their clients. The consideration of planetary health dimensions shouldn't represent a cost for clients, as the approach and tools offered in this book do not involve specific expertise or extensive data collection. Once practiced, the evaluator will have enough experience to apply planetary health lenses to any kind of project with minimal additional effort. The evaluator could even present this layer as a bonus to the evaluation project. Organizations willing to engage in assessing their planetary health impacts will create a path for others and develop a reputation as innovators and responsible investors.

Choosing the Evaluation Design

One component of the evaluation project's validity or credibility is the coherence between the context and choices of approach, questions, design, and methods. Many options exist. While some combinations work well, others are just not possible. For example, you won't use the same research designs for an effect analysis and an implementation analysis. The choice of methods will be determined by your research design. Similarly, some evaluation approaches will determine the choice of questions and research design. For example, in community-based projects or Utilization-Focused Evaluations (Patton, 1997) participants or users determine the direction of the evaluation project early in the process. When working in Indigenous contexts, the entire process must be shaped according to existing protocols and with respect for the communities' cultures. Working with Indigenous peoples and communities will determine the evaluation process, particularly the choice of approach, frameworks, ownership of data, and ethical procedures (Chilisa & Mertens, 2021; Chouinard & Cram, 2020; Cram, 2018a, 2018b; Evans et al., 2020; Government of Canada, 2014). How you engage with different parties and define your own role as an evaluator will be determined by the specific context of evaluation and the type of approach that will be relevant for this context.

Once the right combination is determined and agreed on with the evaluation partners, the evaluator can continue designing the project by identifying the analysis strategy, getting agreement on the knowledge-sharing activities, the timeline, the budget and meeting the ethical approval requirements. Again, creating the evaluation plan presents an opportunity to engage with the different parties and build trust while facilitating agreement of the evaluation's shape and its different components. The written document summarizes what should be a negotiated understanding of what the evaluation project aspires to look like.

Summary

Table 5.1 presents a summary of the different questions that need to be addressed in your evaluation plan document.

One important consideration when building an evaluation plan is that it should be as concise as possible. First, it makes no sense to spend more on the evaluation than on the program itself. Second, the evaluator should propose a plan that is simple, focusing on answering the evaluation questions efficiently.

Table 5-1 *Elements to Consider for Elaborating an Evaluation Plan*

Steps	What's the...
Digging in on the topic	Current state of scientific knowledge on the topic and similar interventions?
	Main debates/disagreements?
	Anticipated impacts on planetary health?
Mapping the context	Level of sensitivity about the topic?
	Who are the actors and communities with an interest in the topic and in the evaluation?
	The architecture of similarities and differences among these people?
Identifying who should be involved	Who is the commissioner? Who are the agents? What are their interests in the topic and in the evaluation?
	Who are the beneficiaries? What are their interests in the topic and in the evaluation?
	Who are the victims? What are their interests in the topic and in the evaluation?
	Who is excluded? What are their interests in the topic and in the evaluation? Who is invited and should be?
Determining the evaluation focus	Purpose of the evaluation? Intended use? What's the plan for considering planetary health impacts? How and with whom to engage on planetary health considerations?
Choosing the evaluation design	What are relevant evaluation questions? What are evaluation designs and approaches adapted to the evaluation questions?

	<p>What strategies can be used to navigate the evaluation in a post-truth context?</p> <p>What are appropriate methods?</p> <p>What will the analysis strategy be?</p> <p>What will the appropriate knowledge-sharing activities be?</p> <p>What will the timeline be?</p> <p>What budget is needed?</p> <p>What ethical requirements need to be implemented?</p>
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Conclusion

One can't expect an evaluation to be straightforward. Only a minority of projects will proceed without any difficulties or surprises. Evaluative contexts are political by nature, with some contexts exhibiting greater political complexity than others. From the start, you should enhance your projects' credibility by negotiating and communicating with the different actors and parties. In more polarized contexts, you will face opposition and resistance, or, on the contrary, some actors will want to help you as much as possible. Often you will be placed in positions where you will need to balance the political context and your own position as an evaluator, particularly regarding engagement and protection of your data/confidentiality. These evaluation considerations shouldn't be minimized. In closing, whatever the context, as evaluators you are accountable for the process and for the results you produce; your choices should be explained, made transparent, and throughout the project you should reflect on the best approach to ensure your results will be credible and valid.

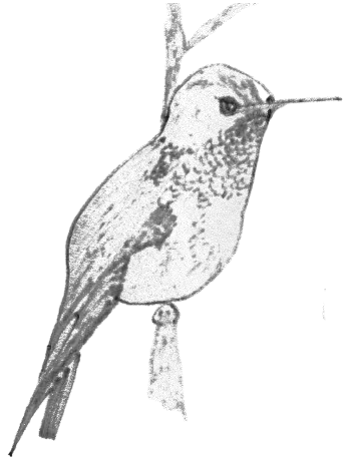
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6. Representing the Intervention

Highlights

- **Logic models and causal models:** They are visual representations that define the intervention and the problem under study. Causal models represent the various causes of a problem targeted by the intervention. Logic models include the objectives, resources, activities, and the chain of effects.
- **Impacts on planetary health:** Dimensions for planetary health should always be represented when relevant.
- **Engagement:** Discussing the logic model is an engaging process that fosters a shared understanding of the intervention, builds trust, and orients the next steps of the evaluation project.
- **Visual choices:** Using more complex or creative representations of the intervention may help engage different audiences with the logic of the intervention.

Introduction

Evaluators analyze and assess all kinds of objects such as products, projects, programs, and policies. For brevity, all these objects are called *interventions*. What these interventions have in common is that they are all purposeful, that is, they are designed and implemented with the intention of accomplishing some goals or objectives. Interventions are always situated in a context. For our purposes, contexts include both human and natural systems.

As a first step in defining an intervention, the evaluator needs to have a good understanding of the object of analysis; this understanding needs to be shared with a diversity of actors who have an interest in the intervention and in the evaluation. Building models, such as causal models and logic models, helps clarify what the intervention is about and how it is supposed to have an impact.

Logic models are essential for defining an intervention, but they are equally valuable for engaging different actors in sharing their perspectives on the intervention and helping to define the focus of the evaluation. The creation of a logic model is typically an exercise that involves various parties, either in its conceptualization or validation. The evaluator should not view this phase as a one-person responsibility, but rather as an engaging process that fosters a shared understanding of the intervention, builds trust, and collectively orients the

next steps of the evaluation project. For these reasons, some evaluators have been exploring non-linear and more creative visual representations and metaphors that are better aligned with local cultures (Lambert et al., 2024).

When reading different evaluation articles and manuals, you will encounter many different terms. These include logic model, operational model, theory of change, program theory, and change model, among others. Each term represents the intervention, but with a slightly different focus. This section reviews how to build a causal model and a logic model then discusses how they are linked. It also briefly presents system mapping.

The Causal Model

Each intervention is meant to address one problem or more. A first helpful step is to understand the role the intervention plays in solving the problem. For this step, building a causal model can be useful. A causal model represents the problem and its root causes that the intervention is meant to address (Renger & Titcomb, 2002).

But first, what is a cause? The study of causes and causality has structured discussions for centuries (Shadish et al., 2002).

A cause is that which makes any other thing, either simple idea, substance or mode, begin to be; and an effect is that, which has its beginning from some other thing. (Locke, 1975, p. 325, cited in Shadish et al., 2002, p.4)

However, causes are not always of the same nature. Some elements, called causes, require specific conditions to produce effects. Shadish et al. provide the example of a match, which can be a cause of a forest fire, but for this to happen, specific conditions are needed, such as something to light the match, dry weather, etc. "Many factors are usually required for an effect to occur, but we rarely know all of them and how they relate to each other" (Shadish et al., 2002, p. 5). These causes are referred to as "INUS conditions," which stands for "an insufficient, but non-redundant part of an unnecessary but sufficient condition" (Mackie, 1974, cited in Shadish et al., 2002, p.5).

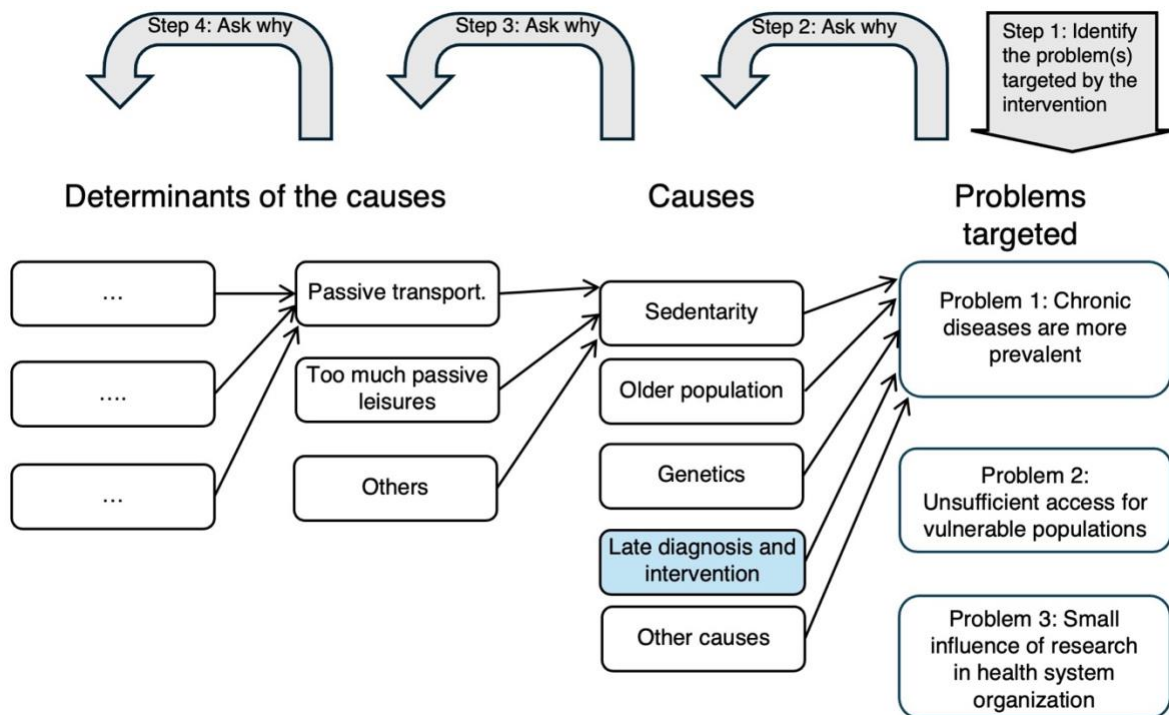
The causal model should represent the factors involved in producing effects. Following Rengers and Titcomb's advice on building a causal model, the main question you should ask at this early stage about the intervention is "why?" (Renger & Titcomb, 2002). Here are the steps to follow:

- The first step is to identify the problem(s) and state it clearly.

- Then, you need to ask why this problem exists and document its causes. Scientific or expert knowledge are the best sources of information to inform this step.
- After identifying a cause (or causes), continue to ask “why?” it’s happening to identify the determinants of the cause, as if peeling back the layers of an onion.
- Continue to ask “why?” until it feels like recording root causes is no longer fruitful or when the topic is exhausted.
- Repeat for each cause and their determinants.

Figure 6.1 presents the start to building a causal model for a Community Based Primary Health Care research initiative that combined 12 different research programs (the intervention).

Figure 6.1 *How to Build the Causal Model*



Source: Brousselle, A. (2015). Research program logic models: Some reflections. Presentation at the Canadian Association for Health Services and Policy Research, Montreal.

Identification of the root causes of the targeted problem will inevitably offer a simplification of the problem and its underlying causes. For example, the obesity map (see Figure 6.2) developed by the UK Government’s Foresight office (Butland et al., 2007) is a good

illustration of the complexity of illness determinants at play. This mapped representation reveals the complexity of the causes of the problem more accurately than a linear representation's offering. However, when trying to understand the potential importance of the evaluated intervention and its role in addressing the root causes of a problem the mapped representation is probably less easy to work with. The evaluator needs to determine the right balance between finding a model that is sufficiently accurate and deep, and that meets the evaluation's practicability requirements, according to the use and role of such models in the evaluation.

Figure 6.2 *The Obesity Map*

Map 27
Weighted
Causal Linkages



Source: Butland, B., Jebb, S., Kopelman, P., McPherson, K., Thomas, S., Mardell, J., & Parry, V. (2007). Tackling obesity: future choices - project report (2nd edition), 90:

<https://assets.publishing.service.gov.uk/media/5a759da7e5274a4368298a4f/07-1184x-tackling-obesity-future-choices-report.pdf>

Once the causal model is developed, the evaluator can identify and highlight the causes and their determinants that are targeted by the intervention, as not all causes will be addressed by the intervention (see Figure 6.1's example, in blue).

Causal models are of great importance in evaluations that focus on the relevance of the intervention and in effect analysis.

The Logic Model

What is a logic model? Basically, it is a tool that describes the theory of change underlying an intervention, product, or policy. It characterizes a project through a system of elements that include components and connections, with context being an important qualification. (Fretchling, 2007, p. 1)

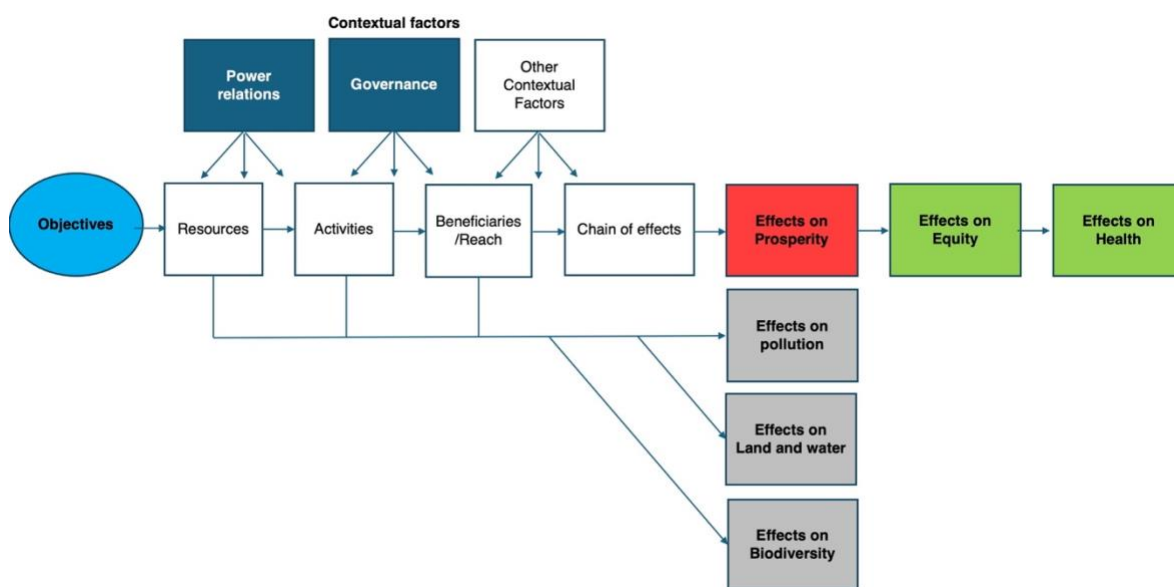
The logic model is a visual representation of the resources, activities, and the results as well as their intended causal relationships. Results include outputs, outcomes, and impacts (Mayne, 2015). *Outputs* are the first results of the activities. They indicate the “quantity of service delivered” and “the first change for which the program is accountable” (Funnel & Rogers, 2011, p. 390). *Outcomes* are results in relation to goals and objectives (Fretchling, 2007). Outcomes can also be unexpected (positive or negative). *Impacts* are generally considered more distal results or results in specific domains such as health, prosperity, or the broader environment. In a logic model, arrows matter and carry meaning: they represent causal relationships. In some models the intervention's objectives will be indicated (usually before the resources), as well as the reach (i.e. the population targeted by the intervention).

A way to build the logic model is to start by identifying the intended outcomes of the intervention (see Figure 6.1's blue box for example), then keep asking “how?” and build the logic chain backwards, from outcomes to resources. Existing documentation on the intervention and the knowledge of people involved in its conception, funding, or delivery will be used for this process. Once a rough sketch is drafted, the evaluator needs to work on the chain of results. Interventions have more results than the main intended effects. Interventions can contribute to different kinds of effects beyond the expected ones, including unintended or undesirable effects and impacts. All of these should be included in the logic model if they can be predicted in advance of collecting data. Furthermore, longer term impacts on natural and human systems are often ignored in logic models as they are not considered as core to the intervention, given funding and the timeframe for implementing a program or policy. However, given that all actions have environmental and human impacts, they should be systematically represented in logic models. Dimensions to consider are

impacts on pollution (including greenhouse gas emissions), land and water, biodiversity, prosperity, equity, and health.

Other contextual factors should also be represented (MacDonald, 2018) as they often influence access to resources, the implementation of the activities, and the intervention's results. Relevant factors related to governance and power relations can be documented while elaborating the plan of the intervention, when mapping the context, and when identifying groups to involve (see Figure 6.3).

Figure 6.3 *Logic Model for Planetary Health*



Source: Brousselle, A., McDavid, J., Curren, M., Logtenberg, R., Dunbar, B., & Ney, T. (2022). A theory-based approach to designing interventions for Planetary Health. *Evaluation*, 28(3), 341. <https://doi.org/10.1177/13563890221107044>

Logic models are built using existing documentation on the intervention and in consultation with individuals familiar with it, such as professionals involved in its design and implementation including funders and regulators.

The visual representation of logic models varies according to the characteristics of the intervention. Logic models can include stages and/or feedback loops. Components of the model and arrows linking these components are equally important. Some projects are more complex than others. Good logic models represent the intervention with accuracy, but they are also simple enough to provide a representation that is easily understood by a diversity

of actors. Among the steps in an evaluation, building and communicating the logic model is often the most effective for encouraging engagement.

Use of Logic Models

Logic models and related intervention representations are central in many facets of evaluation projects; they can be used for different purposes. Mayne (2015) lists a wide range of possible uses:

Designing/planning interventions

- 1) Designing interventions
- 2) Understanding and agreeing on interventions with stakeholders
- 3) Identifying and addressing equity, gender, and empowerment issues
- 4) Ex ante evaluation of proposed interventions

Managing interventions

- 5) Designing monitoring systems
- 6) Understanding implementation, managing adaptively, and learning

Assessing interventions

- 7) Designing evaluation questions, methods, and tools
- 8) Making causal claims about impact
- 9) Reporting performance

Scaling

- 10) Generalizing to the theory, to other locations and for scaling up and out. (Mayne, 2015, p. 120)

Different Visual Representations of the Intervention

One aspect that Mayne did not explicitly mention is the use of logic models to engage with diverse groups or local communities. A linear logic model can be very useful for identifying evaluation questions and structuring the evaluation project. However, it may also appear dry and technical to people outside the field of evaluation. Moreover, in certain contexts, its linear nature may lead to frustration by failing to represent the real complexity of a phenomenon. Depending on the context of the evaluation, the evaluator may want to explore building more complex, non-linear, or culturally responsive models that better align with the audience's expectations and ways of thinking. When the logic model is used to communicate and engage with specific groups, the visual representation may need to be adapted. Below, we will present two contrasting approaches: system mapping, which is used to represent the complexity of an intervention and its many interconnections, and culturally significant visuals and metaphors designed to align with different cultural frameworks.

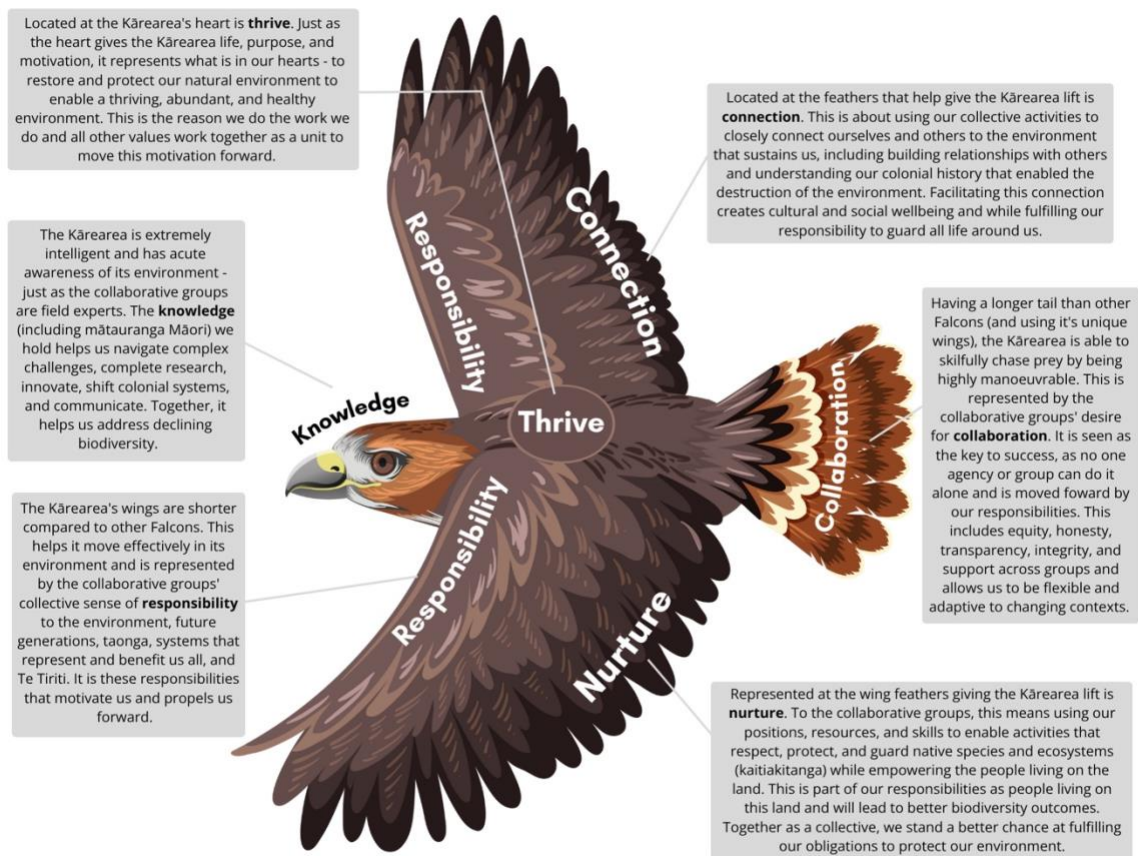
System Mapping

One recurring criticism of causal and logic models is their linearity. This characteristic presents the advantage of creating a simple representation of the intervention and clarifying causal relationships. However, some argue that it oversimplifies the intervention and its interaction with the context. In a world where accounting for the intervention's impacts is increasingly important, finding a way to represent the interaction of the intervention in its system is attractive. Penn and Barbrook-Johnson (n.d.) make suggestions on how to build system-based causal models and theories of change. They suggest building models based on the suggestions resulting from a brainstorm activity with approximately a dozen participants. The group should start identifying a focal point, brainstorm the elements contributing to it, consolidating and connecting the different factors, and checking the connections again. The process is less linear than the one suggested above for building the causal and logic models. It offers interesting engagement possibilities and representation avenues. "The maps are causal models of a system, represented by a network of factors and their causal relations. They are almost always annotated and layered with information about the factors and their connections" (Barbrook-Johnson & Penn, 2022, p. 62). Wilkinson and colleagues (2021) point to software resources available online to support different graphic representations. The use of system mapping is an interesting avenue for exploring the complexity of the intervention and the many influences at play. However, even with system mapping, a simplification of the map may still be needed.

Incorporating Culturally Significant Visuals and Metaphors

When building trust and developing a shared perspective on the intervention is the priority, adapting the visual representation of the logic model to the audience is important. Lambert et al. (2024) provide different illustrations of what logic models using metaphors and symbols could look like. Several models incorporate animals with symbolic significance or use circular rather than linear representations (see Figure 6.4). Values are also sometimes included in these figures.

Figure 6.4 *The Kārearea Diagram Stemming from the Analysis of the Collaborative Group Process*



Source: Te Tira Whakamātaki, cited in Lambert, S., Heimlick, M., Marzano, M., Mark-Shadbolt, M., & Smith, V. (2024). Theory-of-Change Visuals: Using Diagrams, Metaphors, and Symbols to Communicate Complex Ideas and Get Buy-In. *Canadian Journal of Program Evaluation / La Revue canadienne d'évaluation de programme*, 39(2), 300. <https://doi.org/10.3138/cjpe-2024-0028>

Deciding to engage in this direction involves several steps and commitments. This work cannot be led by someone external to the community without proper engagement. It requires respecting protocols, meeting with the community, listening to the people, and collaborating to identify a representation that aligns with their views of the intervention while remaining respectful of their culture. Many animals, for example, hold significant cultural meaning in Indigenous cultures, and symbols cannot be used without the community's collective consent. The evaluator should also inquire about the responsibilities associated with using such symbols and ensure that shared agreements are made regarding how the symbol will be used and shared beyond the community. This co-creation process will likely be iterative, involving several rounds of discussion.

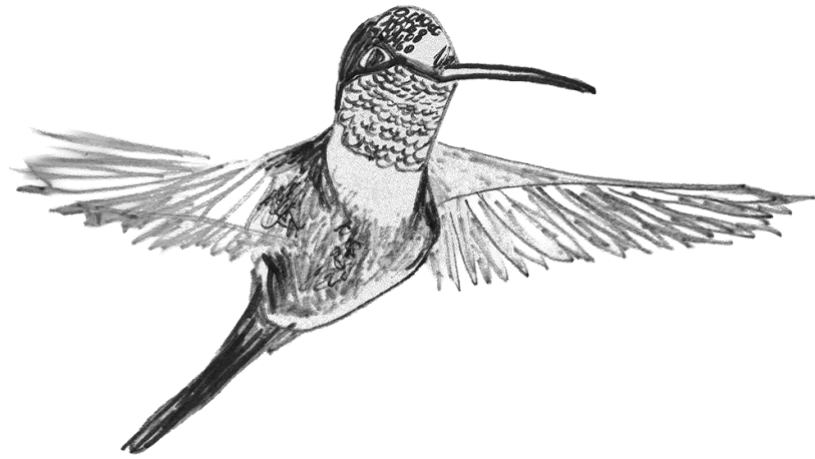
Conclusion

Logic models and causal models define the object of study, which is a first step before conducting any kind of evaluation. The process used for building the logic model is as important as the end product. Evaluators should consider this step as the first engagement activity to get to know the intervention, but also to connect with the different parties involved in the evaluation and in the intervention. This step may help surface diverging representations of the objectives and activities defining the intervention, and potential challenges, offering evaluators insight into the broader dynamics at play. Building logic models as a collective exercise will help in creating a shared understanding of the intervention, communicating and engaging different parties, and building trust among the different participants, including the evaluand and the evaluator (Funnel & Rogers, 2011).

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7. Logic Analysis

Highlights

- **Logic analysis:** It is a theory-based evaluation approach that uses scientific and expert knowledge to assess the plausibility of an intervention's theory and/or identify promising alternatives for achieving the desired effects.
- **Direct logic analysis:** A four-step approach to identify the contextual conditions and mechanisms that enable the production of effects.
- **Reverse logic analysis:** A two-step approach used to identify the best alternatives for achieving specific results.

Introduction

Logic analysis is a theory-based evaluation approach that uses scientific and expert knowledge to evaluate the plausibility of the intervention's theory and/or to identify promising alternatives to achieve the desired effects (Brousselle & Champagne, 2011; Rey et al., 2012).

The aim of logic analysis is to identify the best ways to get where we want to go, that is, to achieve the desired effects. Logic analysis will identify (a) the important characteristics the interventions must have to achieve the effects and (b) the critical conditions required to facilitate the implementation and produce the effects. (Rey et al., 2012, p. 63)

Numerous applications of logic analysis exist (Breton et al., 2021; Brousselle & Champagne, 2011; Brousselle et al., 2009; Contandriopoulos et al., 2015; Hudon et al., 2020; Hurtubise et al., 2020; Rey et al., 2012; Tremblay et al., 2013).

Despite the growth and potential use of logic analysis, the dimensions contributing to planetary health have not yet been integrated into this approach, mainly because awareness of intervention impacts on natural and human systems on which living species depend has been lacking. Logic analysis is founded on the integration of scientific and expert knowledge to offer guidance on the most promising approaches for reaching pre-determined objectives. Intervention impacts on natural and human systems are rarely documented in scientific articles except when interventions are presented as direct alternatives to harmful technologies. Therefore, evaluators need to add a specific step to the standard logic analysis

process to analyze what the plausible impacts on planetary health will be and then integrate these aspects into their feedback and, ultimately, influence decision-making processes.

Foundations of Logic Analysis

A fundamental principle of logic analysis is to validate or identify the theory of intervention to make sure it is based on evidence and not on beliefs.

As evaluators, we should also question the validity of the intervention's chain of action (validity of the means), and we should test the scientific plausibility of the program's theory. In fact, it could be argued that program theory does not really reflect how the intervention produces the intended outcomes, but rather, stakeholders' perceptions and beliefs, right or wrong, about the mechanisms that operate between the delivery of the intervention and the intended outcomes. The whole evaluation is then built on the consensus reached on participants' beliefs and perceptions. But what do we do as evaluators if these are incomplete or, worse, if they are wrong? Can we really build valid evaluations based on the prior analysis of a program's theory that reflects what people think, but not what the intervention does (Chen, 1990a, 1990b)? (as cited in Brousselle & Champagne, 2011, p. 69)

Program theory is:

a specification of what must be done to achieve the desired goals, what other important impacts may also be anticipated, and how these goals and impacts would be generated. (Chen, 1990, p. 43)

central to evaluation practice and has evolved as a response to black box evaluations and the related difficulty of results interpretation (Funnell and Rogers, 2011). (as cited in Brousselle et al., 2022, p. 337)

Logic analysis goes beyond drafting the program theory, it provides a process for analyzing its plausibility for achieving the expected results.

Logic analysis is useful for better understanding the intervention's strengths and weaknesses and for analyzing whether the intervention is designed in a way that can logically produce the desired results (Champagne et al., 2009). Furthermore, it allows us to assess the strength of the causal link between the intervention and the intended effects. A strong causal chain is a precondition for conducting an effect analysis; even

so, in the absence of such a chain, logic analysis can provide insights into the intervention's potential (although that potential in no way guarantees the effects will be achieved). (as cited in Brousselle & Champagne, 2011, p. 70)

Types of Logic Analysis

Two types of logic analysis exist. Choosing which type to use depends on the objectives of your evaluation project. *Direct logic analysis* is a theory-based evaluation that aims at identifying the contextual conditions and the mechanisms that allow the production of effects. *Reverse logic analysis* is used to identify the best possible options for achieving some specific results. It is about finding the most promising theory of change for reaching specific objectives. This type of logical analysis is useful for pinpointing alternatives that could achieve the desired outcomes, thereby expanding the range of possible interventions. It is fundamentally summative in nature because, in exploring different courses of action, it can either support or challenge the intervention being examined (Brousselle & Champagne, 2011). Steps for conducting a direct logic analysis and for a reverse logic analysis are slightly different.

Steps for Conducting a Direct Logic Analysis

The direct logic analysis approach has a lot of similarities with the realist synthesis developed by Pawson et al. (2005). Direct logic analysis involves four steps.

Step 1: Building the Logic Model

The first step consists in drafting the logic model using diverse sources of data (documents, interviews with professionals, etc.). This logic model will be the basis for understanding how resources and activities are supposed to lead to the desired effects (Brousselle & Champagne, 2011). The logic model should include relevant impacts on natural and human systems (see Figure 7.1).

Step 2: Developing the Conceptual Framework

Next, the evaluator gathers expert and scientific information on effective intervention mechanisms and the contexts in which the effects are produced. This step involves identifying the knowledge domains that should be surveyed. There's often a leap between how the logic model is drafted and how the concepts are named in the scientific literature. Related topics may span different disciplines. For example, knowledge use can be linked to knowledge transfer, lobbying, evaluation use, and more. Once those concepts and domains have been identified, the evaluator searches library databases and synthesizes the information to build a theory of change. Different domains of knowledge may be surveyed, and the synthesis exercise may require reflecting on what works in which context. Different domains may provide complementary or even contradictory information. The role of the evaluator is not to eliminate some domains of knowledge, but rather interpret the value of this knowledge in the particular contexts of study. Sometimes, the juxtaposition of domains of knowledge is necessary.

Step 3: Integrating Impacts on Planetary Health in the Theory of Change

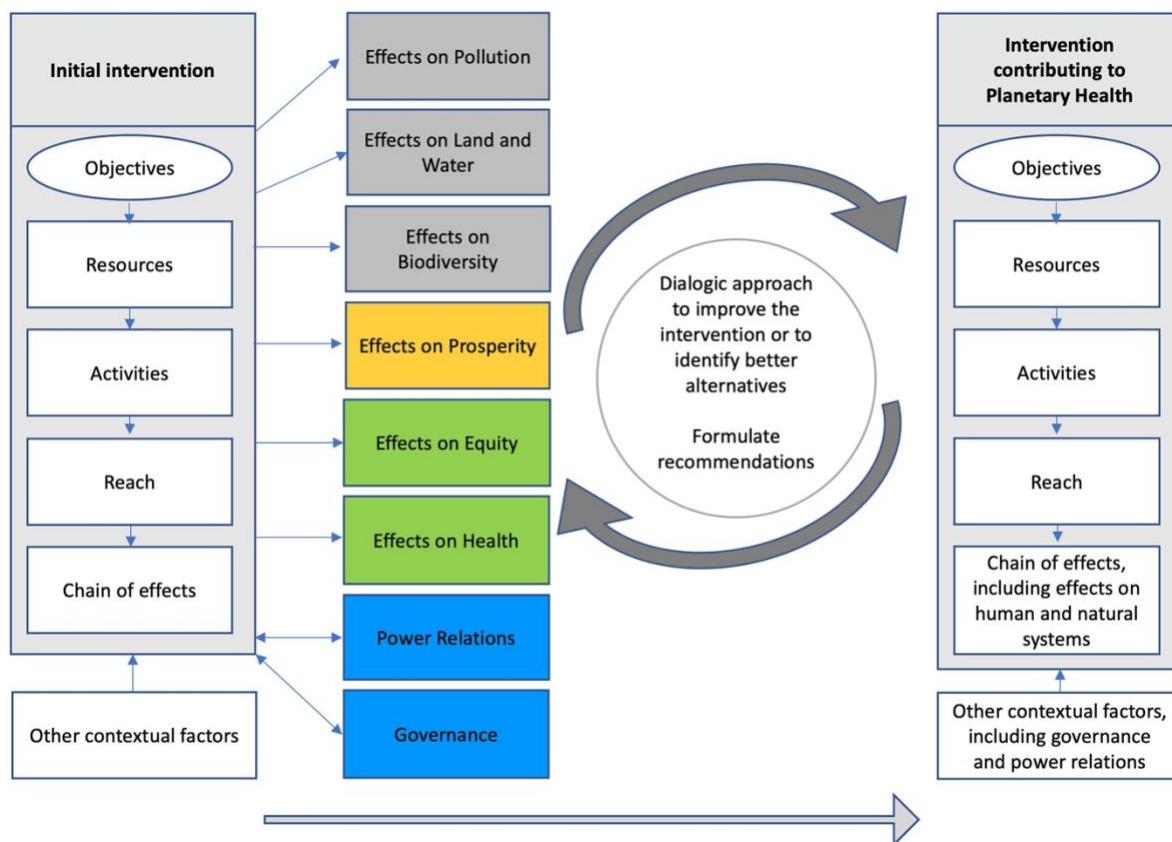
The next step consists of integrating consideration of the intervention's impacts on natural and human systems. As mentioned earlier, the evaluator will seldom find this information in the scientific literature consulted to build the theory of change. A dialogic step will be required to integrate these dimensions into the evaluation (Brousselle et al., 2022). The evaluator may want to create a first draft of the potential impacts based on either their own knowledge or that of relevant experts consulted. Then, the evaluator will need to consult with the people involved in the implementation of the program to identify broader potential impacts on health, equity, prosperity, pollution, biodiversity, land, and water. These impacts will vary according to implementation context, hence the need to discuss with people who are knowledgeable about how the intervention is implemented. Definitions and illustrations of these impacts might need to be provided to the participants to make sure they have a shared understanding of what these concepts encompass. The Planetary Health Rapid Impact Assessment Tool (see chapter 3 and Figure 3.1) can be used to support engagement on this aspect.

Step 4: Comparing the Logic Model to the Theory of Change

The final step involves analyzing the logic model and comparing it to the theory of change synthesized in Steps 2 and 3. Ideally this work is completed with the professionals involved in the intervention evaluated. When done collaboratively, this step should deepen the understanding of how, within a particular context, the mechanisms and elements identified in the theory of change are mobilized or not. The discussion could be organized around the potential discrepancies between the logic model and the theory of change, and on the ways the implemented intervention could be improved to increase its effectiveness.

The discussion with participants should include an engagement activity about the impacts of the intervention on human and natural systems. This dialogue should include the identification of negative impacts and a discussion on either alternatives or ways to shift the impacts from negative to positive (see Figure 7.1). By explicitly discussing these aspects and using planetary health lenses, deliberate amendments to the intervention can be made to make it a more desirable intervention.

Figure 7.1 *Designing program theories for planetary health*



Source: Brousselle, A., McDavid, J., Curren, M., Logtenberg, R., Dunbar, B., & Ney, T. (2022). A theory-based approach to designing interventions for Planetary Health. *Evaluation*, 28(3): 346. <https://doi.org/10.1177/13563890221107044>

Steps for Conducting a Reverse Logic Analysis

Reverse logic analysis involves similar but slightly different steps. The objective is to identify different alternatives for achieving desired results. Reverse logic analysis is particularly useful when no intervention preexists, but it could be used when an intervention already exists to broaden the range of possible actions to achieve specific results. It provides valuable information on how to design effective interventions to achieve specific, predetermined effects. Before starting, the different parties involved in the evaluation should agree on the expected results they are trying to achieve with the intervention. Reverse logic analysis uses 2 steps.

Step 1: Identifying Different Alternatives

By consulting experts and conducting a search of the scientific literature, the evaluator will identify one or more interventions—or alternative approaches—that could lead to the expected effects. The intervention(s) will be the result of synthesizing various writings, while considering the context and its influence on the production of effects. If the existing body of knowledge suggests multiple alternatives that cannot be combined, distinct interventions could be identified, followed by a deliberative process to select the intervention most appropriate for the implementation context. The goal is to identify, based on scientific and expert knowledge, one or a small number of interventions that will lead to the desired results. All effects documented in the literature review should be incorporated into the interventions' theory of change, as some interventions may also lead to undesirable effects.

As the objective of this type of evaluation is to provide evidence-informed knowledge to help make the best decision possible on what kind of intervention to implement, all relevant information should be included. This also involves documenting the potential impacts on natural and human systems. As mentioned above, these impacts will depend on the context of implementation. Even if discussions are needed with the implementers at a later stage, it is the role of the evaluator to identify the areas of environmental and social impacts at this stage; this step can be completed based on the evaluator's own knowledge or by consulting relevant experts.

In summary, the role of the evaluator will be, first, to synthesize the information available from the scientific literature and related to impacts on planetary health. This step may lead to the formulation of one or more theories of change identifying the mechanisms and the contextual conditions by which the intervention will generate effects, as well as the full spectrum of anticipated outcomes, including those affecting environmental and human systems.

Step 2: Selecting the Most Promising Intervention

The second step involves organizing a deliberative activity with the actors in the field to identify the most relevant intervention according to the implementation context (Tremblay et al., 2013). This step involves identifying the range of possibilities and mechanisms of action based on expert and scientific knowledge, and then integrating these insights with the specific characteristics of the implementation context. The choice of intervention will depend on the contextual characteristics (Rey et al., 2012). The deliberative approach should include discussions about alternative interventions and their potential impacts on planetary health, followed by strategies to explore ways to revise the theory of change in order to shift from negative impacts to positive outcomes.

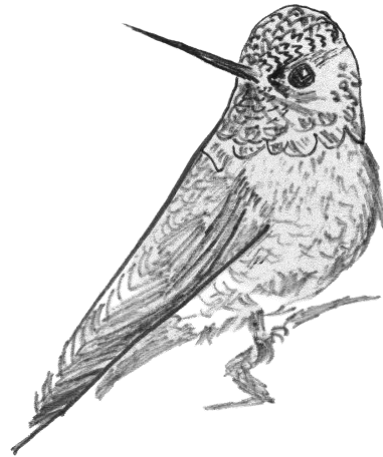
Conclusion

Logic analysis is an effective evaluation approach to contribute to the implementation of evidence-informed interventions and shift our impact towards planetary health protection, restoration, regeneration, and positive health and social impacts. This type of analysis requires important synthesis and facilitating skills. However, it is an approach that does not require a lot of resources and is quite accessible to anyone, whatever their knowledge and expertise. Engaging people in discussions about the potential intervention impacts on planetary health can have a positive, lasting contribution to the environment and human health and well-being. In the longer term, this approach may contribute to shifting the way we think about interventions.

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8. Effect Analysis and Related Approaches

Highlights

- **Effect analysis:** Effect analysis focuses on identifying the results of the intervention, determining whether the intervention makes a difference, in what way, for whom, and whether the observed effects can be attributed to the intervention.
- **Research designs:** Experiments were traditionally associated with effect analysis. Many different designs exist to answer effect analysis questions, each with its own strengths and threats to validity.
- **Choosing the right design for an effect analysis:** The purpose of the evaluation, the characteristics of the intervention and its implementation context are likely the main factors to consider when choosing an approach for effect analysis.
- **Contribution analysis:** Contribution analysis is a theory-based approach for effect analysis better suited for evaluating complex interventions.
- **Impact analysis:** Impact analysis is an umbrella term that encompasses a wide range of research designs, including experimental and quasi-experimental designs and contribution analysis.
- **Impacts on planetary health:** While some impact or effects analysis designs can readily integrate planetary health considerations, experimental or quasi-experimental designs may require a mixed-methods approach.
- **Outcome harvesting:** Outcome harvesting is an approach designed to identify effects in changing contexts. This approach is useful to understand social change processes.

Introduction

Interventions are created and implemented for specific reasons and to achieve specific objectives. Confirming whether implemented interventions are effective is important for decision-makers. Evaluators have a key responsibility in determining whether the intervention's objectives were achieved. However, this question is often not easy to answer.

Evaluators must ask themselves: which research strategy can be implemented to respond to this question with confidence?

The production of results is often a complex process that has implications beyond achieving the intervention objectives. It's particularly complex because interventions often produce effects other than those they were originally designed to achieve; some of these additional effects are beneficial, others not; some will affect people beyond the target population; and some effects may be unexpected.

Analyzing the results of an intervention can address different questions such as:

- What are the results of the intervention?
- Did the intervention make a difference? If yes, in what way, for whom?
- Are the effects observed attributable to the intervention?

In the evaluation literature, people distinguish the effects from the impacts (longer-term). In this chapter, effects will represent the chain of results, that is a continuum from outputs to outcomes to impacts (Mayne, 2015).

Some evaluators specialize in effect analysis which is niche that requires specialized expertise (Shadish et al., 2002). Historically, effect analysis has been closely associated with experiments (experimental and quasi-experimental research designs). In the last 25 years, the field around the evaluation of effects has expanded. Contribution analysis was created specifically to analyze the effects of complex interventions. There is a wide range of designs to investigate effects, including for interventions that are less suited to experimental methods. Effect analysis is an evaluation question that now covers a rich and diverse set of research designs.

This chapter provides an overview of the foundational principles of effect analysis and a description of the diversity of approaches used to evaluate effects. The structure of the chapter was designed to help the reader understand the logic of inquiry behind effect analysis. It starts by defining effects and causal relationships. It then reviews experimental and quasi-experimental research. This review will help the reader understand the strengths and limitations of such approaches. As we will see, some interventions are not good candidates for these research designs. Contribution analysis, specifically designed for complex interventions, will be presented. These sections should help the reader understand how some designs can be a good fit or not, according to the evaluation contexts. Impact analysis will then be presented. Impact analysis is an umbrella term that includes a large range of approaches aiming at evaluating effects. Impact analysis, as presented by Stern and colleagues (Stern, 2015; Stern et al., 2012), includes experimental and quasi-experimental research and contribution analysis. Presenting impact analysis after having discussed more traditional designs should help the reader understand how these different approaches differ and what they bring to evaluating the effects of interventions. In this

chapter, the integration of planetary health dimensions into effect and impact analysis is also explored. Finally, this chapter will also touch on outcome harvesting. Outcome harvesting is not an approach focusing on assessing causal relations, but rather an approach for evaluating interventions' effects and social change in unpredictable and changing contexts. Given that we will likely experience more unstable and fast-changing contexts, outcome harvesting may become more prominent in the upcoming years.

Defining Effects and Causal Relationship

Donald Campbell (1916-1996) was a social scientist with expertise in psychology. He made landmark contributions to the study of causality in evaluation. He and his colleagues, William Shadish and Thomas Cook, published renowned works on causality and experimentation which are still foundational references in the field (Shadish et al., 2002). In their 2002 book, they stated:

We can better understand what an effect is through a **counterfactual** model that goes back at least to the 18th-century philosopher David Hume (Lewis, 1973, p. 556). A counterfactual is something that is contrary to fact. In an experiment, we observe what did happen when people received a treatment. The counterfactual is knowledge of what would have happened to those same people if they simultaneously had not received the treatment. An effect is the difference between what did happen and what would have happened. (as cited in Shadish et al., 2002, p. 5)

A counterfactual is something that cannot be observed directly (it is logically impossible to be in the treatment and non-treatment groups simultaneously), hence the need to create a reasonable approximation of counterfactuals (Shadish et al., 2002). For analyzing effects, evaluations are meant to create conditions of experimentation that allow for the identification of effects and ensures that the effects observed are attributable to the intervention.

How do we know if cause and effects are related? In a classic analysis formalized by the 19th-century philosopher John Stuart Mill, causal relationship exists if (1) the cause preceded the effect, (2) the cause was related to the effect, (3) we can find no plausible alternative explanation for the effect other than the cause. These three characteristics mirror what happens in experiments in which (1) we manipulate the presumed cause and observe an outcome afterwards; (2) we see whether variation in the cause is related to variation in the effect; (3) we use various methods during the experiment to reduce the plausibility of other explanations for the effect, along with ancillary methods to explore the plausibility of those we cannot rule out. [...] Experiments explore the effects of things that can be *manipulated*, such as a dose of a medicine, the amount of a welfare

check, the kind or amount of psychotherapy, or the number of children in a classroom. (Shadish et al., 2002, pp. 6-7)

However, nonmanipulable events or attributes require the creation of something other than experimental research design to assess the causal relationship which is harder to study. A diversity of research designs exists as alternatives to experimental approaches.

It is important to note that experimental research covers a wide range of designs and diverse contexts. Various terms are used to represent these distinct evaluative contexts:

- *Efficacy* refers to the measurement of effects under controlled conditions (as opposed to real-life conditions). In these controlled settings, all groups receive the same predetermined doses of the intervention.
- *Effectiveness*, on the other hand, measures the intervention's impact under normal usage conditions, accounting for potential challenges such as differences in access or dosage due to typical usage (Champagne et al., 2011a).

Experimental research is often presented as the gold standard for studying attribution of effects. However, this type of research also has limits. In particular, the conditions of experimentation may reduce the ability to generalize results (Shadish et al., 2002).

For example, efficacy which is the measure of effects between the treatment group and the control group is generally different (and superior) as compared to the measure of effectiveness which is the difference of effects between the group of users and the non-users, measured in normal use conditions (Champagne et al., 2011a). This difference is primarily explained by issues of accessibility and variations in treatment adherence. Similarly, some have criticized experimental research for its frequent focus on white male participants, which can reduce the consideration of the characteristics of other population groups and hides the potential effects on groups not invited to the experiment.

“The strength of experimentation is its ability to illuminate causal inference” (Shadish et al., 2002, p. 18). In particular, experimental designs eliminate internal validity threats such as rival hypothesis (McDavid & Huse, 2019). “The weakness of experimentation is doubt about the extent to which that causal relationship generalizes” (Shadish et al., 2002, p. 18).

Experimental and Quasi-Experimental Research Designs

Experimentation generally refers to the manipulation and control of the research conditions to allow for the testing of some hypothesis. However, different types exist and refer to specific research processes. Shadish et al. define an experiment as a “study in which an intervention is deliberately introduced to observe its effects” (Shadish et al., 2002, p. 12).

Experimental designs require that units or participants be **randomly** allocated to the experimental group (the one that receives the intervention), also called a ‘treatment group’, or to the control group (McDavid & Huse, 2019).

Quasi-experimental research, on the other hand, does not use randomization for assigning the intervention to participants. Assignment to conditions can be done by the participant or any other person. The research still has control of the conditions of the study (i.e., the conditions of the experiment, dosage, etc.) and efforts are made to make the experimental and control groups as similar as possible using methods such as matching participants in the groups.

In most experimental or quasi-experimental designs, key outcome variables are measured before the program is implemented, and then after the program has been running long enough to be considered fully implemented. The ‘before’ measure is called a **pre-test**, and the ‘after’ measure is a **post-test**. Comparisons of the pre-test to the post-test averages will show whether there was an average change in the outcome variable for the treatment group. (McDavid & Huse, 2019, p. 43).

Natural experiment research is “not really an experiment because the cause usually cannot be manipulated; [an example is] a study that contrasts a naturally occurring event such as an earthquake with a comparison condition” (Shadish et al., 2002, p. 12).

Various experimental designs exist: Pre-test/Post-test, Post-test only, and post-test but using a longitudinal perspective with measures of outcomes at different moments in time (Champagne et al., 2011a; McDavid et al., 2019; Weiss, 1998). A diversity of quasi-experimental designs and non-experimental research designs also exist—such as static group comparison, before-after design, times series, and case study—each presenting distinct potential threats to internal validity and external validity. Summary tables of experimental and quasi-experimental designs and their relative strengths and potential biases are presented in McDavid et al. (2019, p. 133) and Champagne et al. (2011a, p. 185).

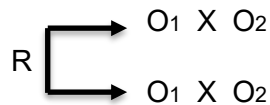
Experimental and quasi-experimental research use the following symbols and acronyms for describing designs:

- R: randomization
- X: treatment/intervention
- O: observation

For example, a Post-test research design would be represented as follows:

X O₁

A Comparative Pre-test/Post-test design with randomization would be represented as:



The quality of the study determines the confidence in the results and in the causal relationship between a specific intervention and the effects. The study quality depends on different elements and potential threats (Champagne et al., 2011a):

- (1) Validity of instruments and measurements
- (2) Internal validity
- (3) External validity
- (4) Validity of statistical analysis

The following section provides a brief overview the first three elements.

Validity of Instruments and Measurements

The validity of an instrument is its actual ability to correctly measure what it is supposed to measure (Champagne et al., 2011a, p. 168). This includes:

- **Content validity:** Refers to the extent to which an instrument accurately represents relevant dimensions of the concept it is intended to measure. For example, mortality rate alone would be a poor measure of overall population health.
- **Criterion validity:** Refers to the extent to which an instrument correlates with and accurately predicts the outcome it is intended to measure. An example includes examining whether success in undergraduate studies correlates with admissions exam scores, especially when such exams are used as a tool to predict academic success.
- **Construct validity:** Refers to whether the test is truly measuring the intended construct and not something else. For example, IQ tests are not necessarily a good measure of intelligence.

Content validity assesses how well the test covers all the relevant aspects of the concept it is supposed to measure, while construct validity evaluates whether the test is measuring the intended construct and not something else.

Internal Validity

Internal validity corresponds to the confidence that the variations observed in the outcomes can be attributed to the intervention (Champagne et al., 2011a). Several elements can threaten internal validity (Champagne et al., 2011a, p. 182; McDavid et al., 2019; Ohlund & Yu, N/A):

- **History:** Something influences the outcome during the study other than the treatment.
- **Selection:** Participants differ in some relevant ways between the control and the experimental groups.
- **Maturation:** Changes such as fatigue or experience acquired during the experiment.
- **Regression to the mean/Statistical regression:** Extreme scores on the pretest tend to be less extreme on the post-test.
- **Attrition/experimental mortality:** Participants drop out—this is a threat if attrition differs between the control and experimental groups.
- **Testing:** Participants become familiar with the testing conditions when the same tests are applied multiple times.
- **Instrumentation:** Changes in measuring instruments, observers, etc., between the pretest and post-test can affect outcomes.
- **Selection-based interactions:** Selection can interact with other validity threats. For example, a program aiming to increase validity that is tested on two groups with different socio-economic status could introduce bias.

Table 8.1 presents internal validity threats to some quasi-experimental and experimental research designs. For each of the following research designs, "yes" indicates possible threats to internal validity.

Table 8-1 Internal Validity Threats to Some Quasi Experimental and Experimental Research Designs

	Model	History	Selection	Maturation	Statistical regression	Attrition/Mortality	Testing	Instrumentation	Selection-based interactions
Quasi-Experimental Research Designs									
Pre-post test design	O X O	yes		yes	yes	yes	yes	yes	
Static group comparison design	X O O		yes	yes		yes			yes
Pre-post comparison group design	O X O O O		yes						yes
Case study design	X O	yes		yes	yes	yes		yes	
Single time series design	OOO X OOO	yes		yes				yes	
Comparative time series design	OOO X OOO OOO OOO		yes						yes
Experimental Research Designs									
Pre-post test design with control group and randomization	R O X O O X O					yes			
Post test design with control group and randomization	R X O O					yes			

Source: Compiled from McDavid et al. (2019) and Champagne et al. (2011a).

External Validity

External validity relates to the capacity to generalize the results to different contexts beyond the context of research. It refers to the extent to which a causal relationship “holds over variations in persons, settings, treatments and outcomes” (Shadish et al., 2002, p. 86). They can be summarized into five categories (see Exhibit 8.1).

Exhibit 8.1: Threats to external validity: Reasons why inferences about how study results would hold over variations in persons, settings, treatments, and outcomes may be incorrect

Interaction of the Causal Relationship with Units: An effect found with certain kinds of units might not hold if other kinds of units had been studied.

Interaction of the Causal Relationship over Treatment Variations: An effect found with one treatment variation might not hold with other variations of treatment, or when that treatment is combined with other treatments, or when only part of that treatment is used.

Interactions of the Causal Relationships with Outcomes: An effect found on one kind of outcome observation may not hold if other outcome observations were used.

Interaction of the Causal Relationship with Settings: An effect found in one kind of setting may not hold if other kinds of settings were to be used.

Context-Dependent Mediation: An explanatory mediator of a causal relationship in one context may not mediate in another context.

Source: Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Houghton Mifflin Company: 87.

In experimental research, several biases can potentially prevent the extrapolation of results. Champagne et al. (2011a) name the following:

- **Contagion/diffusion of treatment:** Communication or interaction between the control and experimental groups that compromises their independence and potentially influences outcomes.
- **Compensatory reactions:** The control group changes its behavior upon realizing it will not receive the treatment.
- **Compensatory interventions:** Professionals attempt to compensate for the absence of treatment in the control group.
- **Pleasing the evaluator or expectations of the researcher:** Participants may change their behavior due to a desire to please the evaluator or because of perceived expectations from the researcher.

See Champagne et al. (2011a, p. 183) for a more extensive list.

Each experimental research design presents strengths and threats to validity. Fully randomized designs are intended to prioritize internal validity and, hence, meet the conditions to determine whether there is a causal relationship between the treatment and the outcome variable. To choose the most promising design for a specific context, further consultation of specialized resources is recommended, including works by, such as Weiss (1998), Shadish et al. (2002), McDavid et al. (2019), (Brousselle et al., 2011b).

Experimental designs are essential in some contexts. For example, before commercializing new pharmaceuticals, it is important to make sure they are effective and safe and that they have been appropriately tested. New drugs are tested through rigorous protocols, first in laboratory conditions, then on humans using randomization among participants who share similar characteristics to isolate the production of effects and to gain confidence that the observed effects are related to the intervention. At this stage, the limit of generalizability of results has not been resolved. Even if such settings provide high confidence in the causality relations, they still limit the capacity to generalize results.

Similarly, randomized controlled trials (RCT) are limited in participant diversity. For example, the first vaccines for COVID-19 were tested on children only after having been tested on adults, which delayed vaccine accessibility to this population. In the past, some RCTs were subject of controversy. For example, during early HIV/AIDS drug testing, some participants reportedly shared doses with the hope that it would give them a chance to extend their lives. Finally, experimental research is not suitable in all contexts. It is not always possible to create experimentation conditions that isolate the causal relations between the intervention and the effects. Consequently, evaluators developed and used alternative designs for effect analysis, such as Contribution Analysis and those listed in the section on Impact Evaluation.

Contribution Analysis

Contribution analysis was initially developed by John Mayne when he was working in the Office of Auditor General of Canada. He was working on strategies to increase the relevance of evaluations in the Federal Government of Canada.

Government programs are intended to produce certain outcomes: more jobs, a healthier public, better living conditions, etc. Effective programs are those that make a difference in meeting these kinds of objectives – they contribute to the intended outcomes that citizens value. In trying to measure the performance of a program, we face two problems. We can often—although frequently not without some difficulty—

measure whether or not these outcomes are actually occurring. The more difficult question is usually determining just what contribution the specific program in question made to the outcome. How much of the success (or failure) can we attribute to the program? What has been the contribution made by the program? (Mayne, 1999, pp. 2-3)

Contribution analysis has often been associated with the analysis of complex programs.

Contribution analysis is based on the existence of, or more usually, the development of a postulated theory of change for the intervention being examined. The analysis examines and tests this theory against logic and the evidence available from results observed and the various assumptions behind the theory of change, and examines other influencing factors. The analysis either confirms – verifies – the postulated theory of change or suggests revisions in the theory where the reality appears otherwise. The overall aim is to reduce uncertainty about the contribution an intervention is making to observed results through an increased understanding of why results did or did not occur and the roles played by the intervention and other influencing factors. (Mayne, 2012a, p. 271)

Contribution analysis examines, through causal claims, the contribution, rather than the attribution, a complex program is making to outcomes and impacts (Delahais & Toulemonde, 2012; Mayne, 2001, 2008, 2011, 2012a, 2012b, 2015). When an intervention is sufficiently complex that it is difficult to isolate direct causal relationships, contribution analysis can help construct a plausible story about what happened. It explains the observation of outcomes and impacts of the intervention and identifies key threats to the chain of effects, other contributing factors and rival explanations. The overall objective is for the evaluator to build confidence that the observed effects and impacts are associated with the intervention, while considering other potential influences and alternative explanations.

Contribution analysis involves six steps:

1. Setting out the cause–effect issue to be addressed;
2. Developing the postulated theory of change and risks to it, including rival explanations;
3. Gathering evidence on the theory of change;
4. Assembling and assessing the contribution claim and challenges to it;
5. Seeking out additional evidence; and
6. Revising and strengthening the contribution story. (Mayne, 2012a, p. 272)

Mayne indicates that to be confident the intervention led to the observed effects, the evaluation will need to check the following elements:

- 1) plausibility of the theory of change;
- 2) implementation as outlined in the theory of change;
- 3) evidentiary confirmation of key elements;
- 4) identification and examination of other influencing factors; and
- 5) the extent to which key alternative explanations have been disproved. (Mayne, 2011, p. 7)

Impact Evaluation

Impact evaluation, as presented by Stern and colleagues, is an umbrella term used to present a diversity of designs focusing on identifying effects and impacts of interventions. According to these authors, impact evaluation aims at measuring effects but also answering the “how” and “why” questions, shifting the focus of the evaluation from causality to explanation (Stern, 2015; Stern et al., 2012).

Stern opposes the narrowly defined focus of traditional effect analysis to the consideration of effects in impact evaluation.

Experimental methods are concerned with **intended** rather than unintended effects; assume **direct** links between interventions and outcomes; address **primary** rather than secondary effects; and usually look to evidence in the **short-term** rather than the long-term. This latter is especially important as in many development settings effects are not known when programme funding ends, only becoming clear over a much more extended timescale. Most counterfactual methods on the other hand focus on the short-term, which is likely to capture only a sub-set of programme results. (Stern, 2015, p. 5)

Impact evaluation aims to answer the four following questions:

- 1) To what extent can a specific (net) impact be attributed to the intervention?
- 2) Did the intervention make a difference?
- 3) How has the intervention made a difference?
- 4) Will the intervention work elsewhere? (Stern et al., 2012, p. 37)

A diversity of designs can be considered for conducting impact evaluations. Stern identifies four main approaches to impact evaluations (IE):

Regularity frameworks that depend on the frequency of association between cause and effect – the inference basis for statistical approaches to IE.

Counterfactual frameworks that depend on the difference between two otherwise identical cases – the inference basis for experimental and quasi-experimental approaches to IE.

Multiple causation that depends on combinations of causes that lead to an effect – the inference basis for ‘configurational’ approaches to IE including qualitative comparative analysis (QCA) and contribution analysis.

Generative causation that depends on identifying the ‘mechanisms’ that explain effects – the inference basis for ‘theory based’ and ‘realist’ approaches to IE. (Stern, 2015, p. 17)

Table 8.2 represents different available options. As you can see, the conceptualization of impact evaluation, as proposed by Stern (2015), encompasses experimental research, quasi-experimental research, natural experiments, and contribution analysis.

Table 8.3 elaborates on the choice of the evaluation design for impact evaluations based on the key evaluation questions and the contextual research conditions.

Table 8-2 *Design Approaches, Variants and Causal Inference*

Design approaches	Specific variants	Basis for causal inference
Experimental	RCTs Quasi experiments Natural experiments	Counterfactuals: The difference between two otherwise identical cases – the manipulated and the controlled; the co-presence of cause and effects.
Statistical	Statistical modelling Longitudinal studies Econometrics	Regularity: Correlation between cause and effect or between variables, influence of (usually) isalatable multiple causes on a single effect. Control of ‘confounders’.
Theory-based	Causal process designs: Theory of change, process tracing, contribution analysis, impact pathways, Causal mechanism designs: Realist evaluations, congruence analysis	Generative causation: Identification and confirmation of causal processes or ‘chains’. Supporting factors and mechanisms at work in context.

Case-based	<p>Interpretative: Naturalistic, grounded theory, ethnography</p> <p>Structured: Configurations, QCA, within-case-analysis, simulations and network analysis</p>	<p>Multiple causation: Comparison across and within cases of combinations of causal factors.</p> <p>Analytic generalization based on theory.</p>
Participatory	<p>Normative designs: Participatory or democratic evaluation, empowerment evaluation.</p> <p>Agency designs: learning by doing, policy dialogue, collaborative action research.</p>	<p>Actor Agency: Validation by participants that their actions and experienced effects are 'caused' by programme.</p> <p>Adoption, customization and commitment to a goal</p>
Synthesis studies	Meta-analysis, narrative synthesis, realist-based synthesis	Accumulation and aggregation within a number of perspectives (statistical, theory-based, ethnographic).

Source: Stern, E. (2015). *Impact Evaluation. A Guide for Commissioners and Managers*, p.18:
https://www.bond.org.uk/wp-content/uploads/2022/08/impact_evaluation_guide_0515.pdf

Table 8-3 Summarizing the Design Implications of Different Impact Evaluation Questions

Key evaluation questions	Related evaluation questions	Underlying assumption	Requirements	Suitable designs
To what extent can a specific (net) impact be attributed to the intervention?	<p>What is the net effect of the intervention?</p> <p>How much of the impact can be attributed to the intervention?</p> <p>What would have happened without the intervention?</p>	<p>Expected outcomes and the intervention itself clearly understood and specifiable</p> <p>Likelihood of primary cause and primary effect</p> <p>Interest in particular intervention rather than generalisation</p>	<p>Can manipulate interventions</p> <p>Sufficient numbers (beneficiaries, households, etc.) for statistical analysis</p>	<p>Experiments</p> <p>Statistical studies</p> <p>Hybrids with case-based and participatory designs</p>

<p>Has the intervention made a difference?</p>	<p>What causes are necessary or sufficient for the effect?</p> <p>Was the intervention needed to produce the effect?</p> <p>Would these impacts have happened anyhow?</p>	<p>There are several relevant causes that need to be disentangled</p> <p>Interventions are just one part of a causal package</p>	<p>Comparable cases where a common set of causes are present and evidence exists as to their potency</p>	<p>Experiments</p> <p>Theory-based evaluation, eg contribution analysis</p> <p>Case-based designs, eg QCA</p>
<p>How has the intervention made a difference?</p>	<p>How and why have the impacts come about?</p> <p>What causal factors have resulted in the observed impacts?</p> <p>Has the intervention resulted in any unintended impacts?</p> <p>For whom has the intervention made a difference?</p>	<p>Interventions interact with other causal factors</p> <p>It is possible to clearly represent the causal process through which the intervention made a difference – may require ‘theory development’</p>	<p>Understanding how supporting and contextual factors that connect intervention with effects</p> <p>Theory that allows for the identification of supporting factors (proximate, contextual and historical)</p>	<p>Theory-based evaluation especially ‘realist’ variants and</p> <p>Contribution Analysis</p> <p>Participatory approaches</p>
<p>Can this be expected to work elsewhere?</p>	<p>Can this ‘pilot’ be transferred elsewhere and scaled up?</p> <p>Is the intervention sustainable?</p> <p>What generalizable lessons have</p>	<p>What has worked in one place can work somewhere else</p> <p>Stakeholders will cooperate in joint donor/beneficiary evaluations</p>	<p>Generic understanding of contexts eg typologies of context</p> <p>Clusters of causal packages</p> <p>Innovation diffusion mechanisms</p>	<p>Participatory approaches and some Experimental and Theory-based approaches</p> <p>Natural experiments</p>

	we learned about impact?			Realist evaluation Synthesis studies
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Source: Stern, E. (2015). *Impact Evaluation. A Guide for Commissioners and Managers*, p.22:
https://www.bond.org.uk/wp-content/uploads/2022/08/impact_evaluation_guide_0515.pdf

Impact evaluations and contribution analysis have expanded the methodological landscape for analyzing the effects and impacts of interventions. This diversity of approaches enables analysis in contexts where experiments are not always feasible. Each approach will have its advantages, strengths, and potential validity threats. This overview touches briefly on a significant domain of evaluation; further reading is strongly recommended for those intending to lead evaluations on this critical topic.

Considering Planetary Health Dimensions when Evaluating Impacts

Planetary health dimensions have generally not been considered in effect analysis, contribution analysis, or impact analysis unless the intervention specifically targets one of these dimensions—either directly or because it is a focus of the evaluation project. As demonstrated, effect analysis using experimental research designs generally focuses on effects that are specifically and narrowly defined. This focus arises from the need to minimize biases and ensure that the research design and measurement procedures allow for the assessment of the causal relationship under study. The objective of such designs is to isolate the experiment from its context to focus on the causal relationship being tested. It is not natural to integrate new variables into such research settings, particularly if these variables are diffuse and occur over the longer-term.

However, even in effect studies relying on experiments, dimensions of planetary health can and should be included. The impact on the environment and human systems is real for interventions that are evaluated through experiments. For example, pharmaceuticals, which are tested in controlled experimental conditions, are typically released into the water system when they are consumed, thus contaminating rivers and deeply affecting life under water (Brodin et al., 2024). In this example, identifying the potential impacts of these interventions

early allows for raises awareness about potential risks, supports the implementation of mitigation measures alongside drug approval (Benton et al., 2025).

Considering potential impacts on the critical dimensions of planetary health may be easier and more natural in some research designs for effects analysis and impact evaluations. Several research designs listed in Table 8.2, including contribution analysis, case-based analysis, participatory approaches, synthesis studies, and even statistical analysis and modelling, readily allow for considering impacts on human and natural systems.

Contribution analysis, in particular, could directly benefit from existing theory-based approaches for designing interventions contributing to planetary health (Brousselle et al., 2022), as the underlying principles are the same. For most research designs listed in Table 8.2, except for experimental research, integrating planetary health dimensions would primarily involve explicitly identifying these dimensions and exploring the intervention's impacts on them. A systematic assessment of the intervention's effects on health, equity, prosperity, pollution, land and water, and biodiversity could be readily integrated.

For other research designs, such as experimental research, considering impacts on human and natural systems would require integrating a complementary research step. The analysis would likely be two-fold: one stage relying on experiments, and the other dedicated to analyzing impacts on planetary health dimensions. For this second, complementary step, existing tools such as the Planetary Health Rapid Impact Assessment Tool (Brousselle et al., 2024b) combined with expert consultation and a review of published scientific literature, could serve as a basis for a holistic effect research design. To overcome the limitations of high-quality experimental designs, this strategy would support the adoption of a mixed methods research design rather than relying solely on experimental research (Creswell & Plano Clark, 2011).

Outcome Harvesting

Outcome harvesting is an approach designed to identify effects in changing contexts. This approach is useful to understand social change processes (Wilson-Grau, 2019). It doesn't try to assess causality. It can become more relevant as we experience quickly evolving and unpredictable contexts due to environmental change, post-truth, and disinformation.

Outcome Harvesting is not intended for projects or project components that are well-supported by evidence, or that closely follow a theory of change. Outcome Harvesting is appropriate for identifying and verifying outcomes, including unintended outcomes. It is a useful, commonsense approach that easily engages informants and is designed to

generate concrete evidence to inform decisions about future actions. (Wilson-Grau et al., 2024).

It can be used when an organization is experiencing constant change and “unexpected and unforeseeable actors and factors in their programming environment” (Wilson-Grau, 2019, p. 1).

For example, these are observable changes in societal actors targeted by policy advocacy interventions: a government minister publicly declares she will restrict untendered contracts to under 5% (an action); a civil society organization launches a campaign for governmental transparency (an activity); two political parties join forces to collaborate rather than compete in proposing transparency legislation (relationship); a senior government official for the first time acknowledges the need for off-grid, sustainable energy production in rural areas (agenda); a legislature passes a new anti-corruption law (policy); or a government implements norms and procedures for publishing all procurement records (practice). Thus, the definition of “outcome” in Outcome Harvesting contrasts with the definition of an outcome as observed changes in the intended program beneficiaries’ wellbeing (learning, health, employment). Those changes would be the impact of these policy changes. (Wilson-Grau, 2019, p. 2).

Outcome harvesting focuses on the identification of outcomes defined as “a change in the behavior, relationships, actions, activities, policies, or practices of an individual, group, community, organization, or institution” (Wilson-Grau, 2019, p. 2). This approach is not meant to identify impacts.

The bottom line of social change is societal actors changing the way they do things. It is only when individuals, groups, communities, organizations, and institutions change their actions, activities, relationships, policies, and practices that a society changes, for good or bad. The essence of an outcome in Outcome Harvesting is those societal actors demonstrably changing their behaviors in those ways. (Wilson-Grau, 2019, p. 170).

Outcome Harvesting collects (“harvests”) evidence of what has changed (“outcomes”) and, working backwards, determines whether and how an intervention has contributed to these changes. (Wilson-Grau et al., 2024).

This approach includes 6 steps (see Exhibit 8.2).

Exhibit 8.2: 6-step Approach to Outcome Harvesting

1 - *Design the Outcome Harvest* based on the principal uses of the primary users. Come to agreement with the people who will use the results of the Outcome Harvest on priority Outcome Harvesting questions to guide the harvest. Users and harvesters should also agree on the process: what information is to be collected, how, from whom, when, and with what resources in order to credibly answer the questions.

2 - *Review documentation* by identifying and formulating draft, potential outcome statements contained in secondary sources of information: reports, evaluations, press releases, and other documentation. These statements should comprise (a) changes in individuals, groups, communities, organizations, or institutions; and (b) how the intervention plausibly influenced them. They may contain other useful information such as the significance of each outcome.

3 - *Engage with human sources*. The harvester facilitates conversations with the people who have the most knowledge about what the intervention has achieved and how. They usually are the authors of the documentation, the intervention's other field staff, allies, and others closest to the action. They review and fill gaps in the potential outcome statements extracted from documentation, identify and formulate additional ones, and together with the harvester agree on a set of robust outcome statements that are sufficiently precise to be verifiable.

4 - *Substantiate with external sources* a select number of outcome statements. Substantiators are one or more persons knowledgeable about the change but independent from the organization to ensure accuracy, or deepen understanding, or both. For example, they may be the societal actors who changed their behavior or allies who collaborated in the intervention, unless of course they already served as a primary source in the third step. This fourth step ensures that the whole set of outcome statements is sufficiently credible for the intended uses. These outcome statements are the evidence used in the next step.

5 - *Analyze and interpret* by first organizing outcome statements so they are manageable, for example, categorising them by evaluation question, and then using this to provide evidence-based answers to the prime evaluation questions, where the evidence is the information contained in the outcome statements generated in the previous three steps.

6 - *Support use of findings* after the evaluation questions are answered so the users make better use of the process and findings.

Source: Wilson-Grau, R. (2019). *Outcome Harvesting: Principles, Steps, and Evaluation Applications*. Information Age Publishing: 8-9.

Conclusion

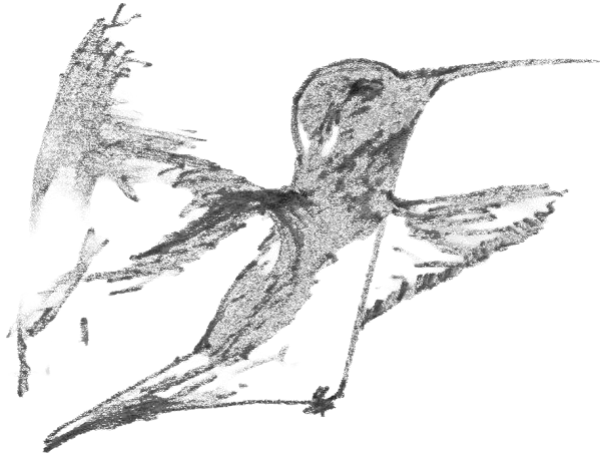
Evaluations and reflections on effect analysis (and impact evaluations) have greatly changed in the last 25 years. New approaches are becoming mainstream, which allows evaluators to choose from a diversity of evaluation approaches. Nevertheless, planetary health dimensions are not systematically integrated, which is understandable but no longer acceptable. Existing methodologies and knowledge allow for the planetary health dimensions to be integrated in all studies. This new practice would increase awareness of global and local impacts. It would influence recommendations based on human and environmental impacts and encourage the implementation of mitigation measures to avoid negative intervention impacts.

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9. Implementation Analysis

Highlights

- **Implementation analysis:** It analyzes the relationship between the intervention and its context.
- **Definitions:** There is significant diversity in how implementation analysis is defined, represented, and approached within the field of evaluation.
- **Impacts on planetary health:** Engaging with the logic model can help identify implementation analysis questions related to planetary health dimensions and impacts. Discussions around potential climate-related disruptions can raise awareness, encourage preparedness, and enhance the intervention's ability to adapt to an evolving global context.

Introduction

Implementation analysis focuses on the relationship between the intervention and its context. It analyzes the causal relationships between the context, activities, and effects. All intervention implementations are shaped by local dynamics and characteristics. For example, interventions will encounter some barriers or, on the contrary, some facilitators specific to the implementation context. Sometimes the intervention will be modified during its implementation. Not all components will be implemented or completely implemented due to the local conditions (Brousselle & Champagne, 2004). Implementation analysis tries to understand the context's influence on the intervention and its effects. It provides an explanation of the implementation and the results produced. It offers complementary information to an effect analysis. It can explain why a program worked or why it didn't work, which is equally important (King et al., 1987; Patton, 1997; Saunders et al., 2005). We often hear that it opens the "black box" to show what happened in the intervention (Saunders et al., 2005). "Unless the programmatic black box is opened and its activities made explicit, the evaluation may be unable to identify strengths or suggest appropriate changes" (King et al., 1987, p. 9). Implementation is an important evaluation subject with questions meant to understand the conditions under which an intervention can be generalized to other contexts.

In the Literature

There is no unique definition of implementation analysis in the evaluation literature (Brousselle, 2004). Some authors call it 'implementation analysis' and others call it 'process analysis'. For some, it largely overlaps with 'implementation monitoring' but for others there is no overlap (Brousselle, 2004; Champagne et al., 2011b; Love, 2004; Rossi et al., 2019; Scheirer, 1994; Weiss, 1998).

Initially, implementation evaluation was similar to discrepancy evaluation (Provus, 1971). The idea was to determine how far the program could deviate from the ideal and at what point it could be considered an acceptable variant of the original idea, rather than a completely new program (Patton, 1997). Subsequently, authors have taken positions to define implementation evaluation. It is striking how much the objectives of this type of evaluation can vary among authors, as well as the variety of subtypes that can be distinguished. Implementation evaluation is found under two names: process evaluation and implementation evaluation (Brousselle, 2004; Chen, 2005). (Free translation, Brousselle et al., 2006, p. 64)

The field has not arrived at a consensus on what it encompasses.

Implementation Analysis Questions

Implementation analysis can cover areas such as (King et al., 1987; Love, 2004):

- **Implementation context.** Does the implementation context favor the implementation of the program as planned? How? What are the characteristics of the intervention implementation site, of the people involved in the program, of the clientele? What are the main differences between the different implementation contexts and how do they interact with the intervention and the results production? How does the implementation vary across different implementation sites? These last two questions will be important when the same program is implemented in different contexts.
- **Intervention history and purpose.** What's the program's implementation history? Consider its inception, key milestones, and implementation steps. What is the rationale for its implementation and its objectives? Is the intervention implemented as planned (e.g. intensity of activities, unexpected events, etc.)? What aspects of the program design needs to (or should) be changed to obtain the expected results in this implementation context? What are the facilitators and obstacles to its

implementation and success? What problems have been encountered, and how do they differ across implementation sites? How are activities meeting expectations? Were beneficiaries satisfied?

- **Stakeholders and implementors.** Who are the main groups involved? Have they changed? What's their level of engagement/support? Any issues with staff recruitment and retention? Are professionals well trained and qualified? Are there important external actors supporting or impeding the implementation of the intervention?
- **Participants.** What are the characteristics of the participants? How are they selected? Is there any issue with the selection process? With retention? Does the program reach the targeted clientele? Are potential clients rejecting or leaving the program?
- **Budget and Funding.** Is the program well-funded? Are the costs as planned? Is the intervention sustainable in the longer term and financially healthy? What are the risks and threats to its sustainability?
- **Results.** What are the successes, weaknesses, strengths? Is the intervention leading to expected results? Are elements missing for achieving results? Which components seems the most important for reaching the expected results? Do the results vary from one site to the other? Has any factor prevented the production of effects? Which components seem the most important for reaching the expected results? How do results differ according to variations of the context, such as participants, professionals, contextual dynamics?

Implementation analysis can explain why interventions may not work in some contexts yet work well in other contexts. Effect analysis is often conducted in conditions where researchers try to control the context to isolate the causal effect, usually before intervention implementation. However, many contextual elements can impede or facilitate the production of effects. For example, culture may become a factor with a major influence when it comes to implementation. Such elements can be documented when conducting an implementation analysis and show how the specific contextual characteristics may influence the production of effects, even when the intervention is fully implemented.

Evaluation Designs for Implementation Analysis

Implementation analysis provides an explanation of what works under specific conditions and identifies what does not. It's important to gather as much information about the intervention as possible prior to doing fieldwork. Having a sense of the information already available will be essential for orienting the evaluation questions and for planning for the data

collection. In particular, it is helpful to have a good description of the intervention, information about the broader context, detailed information on what was implemented and what was not, and achievement of results (King et al., 1987). Background documents or insiders' views on implementation difficulties and dynamics will also be helpful. Implementation analysis often relies on complementary information provided by the monitoring to document discrepancies between what was planned and what has been implemented.

Assessment of program implementation requires taking into account the surrounding social systems, including characteristics of the organization in which the program is being implemented, characteristics of persons delivering the program (Viadro et al., 1997; Zapka et al., 2004), existing structures of the organizations and groups, organizational social system characteristics (e.g., interorganizational linkages, community agency partnerships; (Scheirer et al., 1995; Zapka et al., 2004), and factors in the external environment (e.g., competing events, controversy about the program, external political factors, and history and events that happen concurrently with the program (Scheirer et al., 1995; Viadro et al., 1997; Zapka et al., 2004). (as cited in Saunders et al., 2005, pp. 136-137)

Different designs can be used, according to the evaluation project objective and to the intervention implementation context.

- **Process evaluation.** Process evaluation aims at documenting implementation steps and dynamics. This type of evaluation “focusses on the internal dynamics and actual operations of a program in an attempt to understand its strengths and weaknesses” (Patton, 1997, p. 206). “Process evaluations search for explanations of the successes, failures, and changes in a program” including “unanticipated consequences in the full context of program implementation and development” (Patton, 1997, p. 206). The work of Langley and colleagues on process analysis and Brousselle & Champagne’s evaluation of the UNAIDS initiative in Chile can both provide insights and examples of how to conduct such analysis (Brousselle & Champagne, 2004; Langley, 1999; Langley et al., 2013).
- **Comparative study.** A comparative study across different implementation sites can provide information on the contextual determinants of the intervention’s implementation both in terms of its integrality and level of implementation (Champagne et al., 2011b, p. 246). Such a comparative study may benefit from existing monitoring data on process such as on fidelity and reach.
- **Realist evaluation.** Realist evaluation can be interpreted as a theory-based implementation analysis (Brousselle & Buregeya, 2018). Realist evaluation assesses complex programs by analyzing what works, for whom, and under what circumstances (Pawson & Tilley, 1997, 2004).

It is a logic of inquiry that illuminates the program theory underlying the inherent characteristics of program implementation (Hewitt et al., 2012; Pawson & Tilley, 1997, 2004) to investigate the generative mechanisms associated with the program (M), the

contexts under which the pathways operate (C), and the ways in which outcomes occur (O) (Salter & Kothari, 2014). Context–mechanism–outcome (CMO) configurations, as outlined by Pawson and Tilley (1997, 2004), foster the examination of recurrent patterns in the midst of complex social reality through in-depth explanations of causal pathways. This helps the evaluator articulate the program theory to be investigated and test hypotheses to produce transferable advice based on that theory and to inform decisions as well as evidence-based policy-making processes (Hewitt et al., 2012). (as cited in Brousselle & Buregeya, 2018, p. 157)

Realist evaluation involves four core steps: 1) articulating the program theories to be tested; 2) collecting data to test the hypotheses; 3) testing the hypotheses; and 4) interpreting and refining them (Mehdipanah et al., 2015; Pawson & Tilley, 1997, 2004; Ranmuthugala et al., 2011; Salter & Kothari, 2014). It uncovers underlying implicit or explanatory theory leading to the program and its multiple components, and it identifies contextual factors that spearhead pathways of change to produce expected outcomes (Jagosh et al., 2015; Pawson, 2002; Pawson & Tilley, 1997, 2004; Ridde et al., 2012; Salter & Kothari, 2014). (as cited in Brousselle & Buregeya, 2018, p. 157)

Impacts on Planetary Health

Analyzing the intervention in relation to its implementation context, including environmental conditions, will provide an opportunity to discuss implementation analysis questions related to planetary health dimensions and intervention's impacts. These questions could explore how environmental disruptions influence the intervention's effects, as well as explore the intervention's impacts on both environmental and human systems.

Climate events affect many communities and vulnerable groups and disrupt interventions' activities. For example, heatwaves affect people's day-to-day lives, droughts reduce crop yields and water supply, smoke episodes affect outdoor activities and physical health, and forest fires displace whole population groups. The list could be extended. Engaging in discussions about disruptions associated with potential climate events may raise awareness and motivate preparedness which will ultimately increase the capacity to adapt the intervention to this new state of the world.

Additionally, the impacts of the intervention itself on human and natural systems can also be discussed. As we have seen, impacts on planetary health are tightly linked to the context's characteristics. When conducting an implementation analysis, it makes sense to discuss and explore the intervention's larger impacts, their range and variety, to document

these in the logic model, and to further scrutinize the intervention's role in mitigating negative impacts and fostering positive impacts. Adopting planetary health lenses when designing interventions will help create positive, regenerative impacts on natural and human systems. Furthermore, it will avoid the shortcomings of siloed approaches that ignore dimensions that are not directly related to the intervention, but which place natural and human systems at greater risk.

Implementation analysis is a type of analysis which often involves data collection from a wide range of actors: from participants to professionals to program commissioners. It constitutes a good opportunity to include planetary health lenses into your evaluation and to engage in group discussions.

Conclusion

Understanding how the context influences the intervention implementation will potentially provide an explanation about why an intervention was either not implemented or not implemented as expected, what worked and what worked less, and the difficulties experienced. It will also provide information for those interested in implementing the same intervention in other contexts. Adopting planetary health lenses and embedding questions in the implementation analysis design related to the environmental and social contexts might bring a prospective thinking that could help implementers prepare for future dynamics which may be very necessary in today's fast changing context.

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10. Economic Evaluation

Highlights

- **Efficiency:** Economic evaluation informs on the intervention's efficiency. An intervention is considered efficient when benefits are maximized and opportunity costs are minimized.
- **Economic evaluation:** Various types of economic evaluations exist including cost-effectiveness analysis, cost-utility analysis, cost-benefit analysis, and cost-consequence analysis.
- **Decision-making:** Although economic evaluation methodologies have been ethically and methodologically contested, they remain valued for the synthesized information they provide. The efficiency criterion alone is often insufficient for sound decision-making and should be considered alongside other criteria, such as equity.

Introduction

Economic evaluation is a set of methodologies that help assess the efficiency of an intervention. Efficiency is a criterion that relates the intervention's costs with its results to support decision-making in systems that are not regulated by the market, such as the healthcare sector. The rationale is to choose interventions that offer the best results at the lowest cost. By considering efficiency as a resource allocation criterion the opportunity cost of investments is minimized. Recently, the evaluation field has seen a growing interest in economic evaluation methods for estimating return on investment and for assigning a monetary value to nature.

Economic evaluation is a field of applied research that aims at guiding decision-making. Entire books have been dedicated to economic evaluations, as it is a specialized field. There is a long history of methods development and critiques of how economic evaluation introduces biases or leads to undesirable choices. This chapter offers an overview of mainstream economic evaluation approaches. It should help evaluators understand their specificities, differences, strengths and risks. It provides an avenue for evaluators to support informed decision-making while integrating planetary health lenses and avoiding identified gaps.

Background

Economic evaluation aims at providing information on the efficiency of interventions. Its methodologies encompass different types of studies, including cost-effectiveness analysis, cost-utility analysis, cost-benefit analysis, and cost-consequence analysis.

Costs are measured in the same way in all types of economic evaluations. What differs is how effects are measured and the degree of synthesis. Cost-consequence analysis provides disaggregated information, while other economic evaluations offer a synthetic index to assess efficiency. Cost-effectiveness analysis uses effects measured in natural units, whereas cost-utility analysis captures effects and impacts on quality of life through a synthetic measure called 'utility' (in economics, a proxy for satisfaction). In cost-benefit analysis, effects are converted into monetary values. Return on investment studies are a derivative of cost-benefit analysis.

Economic evaluation methodologies have expanded in application domains where market regulation is not used. In the healthcare system, allocations often rely on economic evaluation results to make decisions regarding technology and drug coverage. This sector has been a major driver in the development of economic evaluation methodologies. Of course, economic evaluation studies can also be traced back to other sectors, such as large-scale public works. In this chapter, we will primarily draw from the literature in the field of health and healthcare, but the insights can be applied to practice in other domains.

What is efficiency about?

Efficiency results when benefits are maximized and opportunity costs (i.e., the value of benefits forgone by choosing one particular allocation of scarce resources over another) minimized (Donaldson et al., 2002). Initially, economic evaluation was a method intended to help health care decision-makers make the best choices under conditions of uncertainty, conflicting objectives and resource constraints (Weinstein, 2006). However, it rapidly proved inadequate for setting health care priorities. For example, in 1990, the state of Oregon tried using economic evaluation for health care priority setting. To determine what services would be covered by Medicaid, the Health Services Commission used cost-utility ratios to rank services according to efficiency (Tengs et al., 1996); in those results, life-saving interventions were ranked below less critical items such as headache treatment (Hadorn, 1991; Tengs et al., 1996). This experience clearly demonstrated the unacceptability of using efficiency as the only criterion to prioritize health care resource allocations (Hadorn, 1991, 1996; Pinkerton et al., 2002; Tengs et al., 1996; Ubel et al., 1996). Since then, several authors have analyzed the philosophical and theoretical foundations of the utilitarian approach to economic evaluation in relation to access to care, emphasizing the inadequacy of considering only this value in priority setting (Domenighetti, 1998; Veatch, 1995; Williams, 1992; Williams & Cookson, 2006). Nevertheless, economic evaluation has become increasingly

institutionalized with, among other things, the creation of the National Institute for Health and Clinical Excellence (NICE) in England and Wales and a growing number of health technology assessment (HTA) agencies around the world. The trend toward evidence-based decision-making reinforced the need to base resource allocation decisions on rational criteria, with effectiveness and efficiency being especially important. In fact, it is widely recognized that inefficient resource allocations have important consequences in terms of opportunity costs, e.g. reduced access to care for other patients. Furthermore, it is now recognized that other criteria, such as equity of access to care and the rule of rescue (Caro, 2009; Domenighetti, 1998; McKie & Richardson, 2003; Nord et al., 1999) should be considered at the same time as efficiency of interventions. (as cited in Brousselle & Lessard, 2011, p. 832)

The rule of rescue is based on the assumption that saving the life of someone facing avoidable death should trump the efficiency criteria (McKie & Richardson, 2003; Rozworski, 2014).

Types of Economic Evaluations

Different types of economic evaluations exist. Table 10.1 presents the main characteristics of each approach, when they are appropriate to use, and their limitations. All types of economic evaluation include the same measurements of costs; the difference between them is how effects are measured.

Table 10-1 *Comparison of Types of Economic Evaluations*

Type	Relevant When...	Comparator	Measure of Results	Decision Criteria	Limitations
Cost minimization	Several interventions offer the same results in scope and intensity.	Yes: At least one. The most natural and mainstream comparator.	No need to compare the results as they are the same.	The least expensive intervention is the preferred choice.	

Cost-effectiveness	Different interventions presenting the same unique results but at different levels.	Yes: At least one. The most natural and mainstream comparator.	In natural units (for example: life years saved, case prevented, cholesterol levels, etc.)	Dominant intervention if there is one, or calculation of the Incremental Cost-Effectiveness Ratio (ICER)	
Cost-utility	<p>(1) Quality of life is the important outcome (2) the interventions' effects are of a different nature (3) interventions have multiple relevant outcomes (4) some outcomes can be considered more important than others (Brousselle et al., 2011c).</p> <p>Compares interventions with different results in scope and quantity.</p> <p>Utility makes it possible to integrate various effects on morbidity and mortality into the same measure.</p>	Yes: At least one. The most natural and mainstream comparator.	<p>Quality Adjusted Life Years (QALYs) are calculated by multiplying the number of life years living with a given health state by the utility associated with this health state. The utility is measured using different methods: Standard gamble, time trade-off, and visual analog scale.</p> <p>Indirect measures of utility also exist using classification systems of multi-attribute health states, such as EuroQol 5-Dimensions questionnaire (EQ-5D), Health Utilities Index (HUI), Short Form 6-Dimensions (SF-6D) (Bryan et al., 2017; Kim et al., 2022).</p>	Dominant intervention if there is one, or calculation of the Incremental Cost-Effectiveness Ratio (ICER).	Measures of utilities vary according to the instruments used and the types of respondents. There is no consistency in utility values including when estimated with indirect measure systems (Brousselle et al., 2011c; Brousselle & Lessard, 2011; Bryan et al., 2017).
Cost-benefit	Comparing interventions with different	Yes.	Results are converted into dollar values. The	Incremental benefits are compared to	Many ethical issues when converting

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	results and when including indirect effects such as reduction of hospitalization costs.		main methods for converting results into dollar values are the human capital approach (for example, time lived in good health valued according to market salary), revealed preferences (injury compensations; wage-risk approach), and contingent valuation studies (willingness-to-pay; willingness-to-accept) (Drummond et al., 1998).	differential costs, the difference between these two being the net social benefit (Brousselle et al., 2011c; Drummond et al., 1998)	value of human life (and potentially other lives and environmental conditions) into monetary value. No consistency across methods used.
Return on Investment and Social Return on Investment	One wants to know how much economic benefit is derived from an intervention as compared to its costs (Brousselle et al., 2016).	No.	Direct effects are converted into monetary value and added to indirect effects such as costs avoided. Other studies try to include externalities such as environmental and social benefits, also converted into monetary value.	Ratios of benefits/costs are calculated. ROI of different interventions can be compared.	Many ethical issues when converting value of human life (and potentially other lives and environmental conditions) into monetary value. No consistency across methods used (Brousselle et al., 2016).
Cost-consequence analysis	One wants to avoid methodological pitfalls and provide transparent comprehensive information.	Both are possible.	All results (direct effects, indirect effects and externalities) are presented using a tabular or graphical representation.	Deliberations on affordability, efficiency, and other principles such as equity, environmental impacts, access for underserved populations, etc.	Consequences are presented in a disaggregated format which makes the decision criteria less attractive to decision-makers.

The Comparator

Most economic evaluations involve a comparator, which should be the intervention most similar to the one being analyzed. The evaluator should not select a comparator with the intention to influence the results (a more costly drug providing similar effects, for example) but should instead choose the comparator based on what is typically offered as a substitute for the intervention under study. In cost-effectiveness and cost-utility analysis, you want to select the most natural comparator, which is the intervention that is the most similar to the one you are analyzing and the most current alternative (Brousselle et al., 2011c; Bryan et al., 2017). If a comparator is needed but does not exist, the status quo can be used as the comparative baseline.

Cost Calculation

The costs considered in the study are determined according to the study perspective (see Table 10.2). Cost calculation is the same across all types of economic evaluation. However, the study perspective will determine which types of costs will be included into calculations. Savings resulting from the implementation of the intervention are not included in the cost calculation; instead, they are considered consequences of the intervention.

Table 10-2 *Cost Considerations According to the Study Perspective*

Study perspective		Cost examples
Societal	Public payer	Direct costs for services and good covered by the public payer. For example, in healthcare, these costs would include costs for hospitalization, primary care, rehabilitation, community care, long-term care, medical and other professional services, drugs, medical devices, diagnosis and screening services, facilities.
	Private insurer	Services and devices covered outside of the public insurance system
	Direct beneficiaries, families and caregivers, replacement costs for employers	Copayments. Includes for example in the healthcare system copayments for services and drugs, cost of travel, premiums paid to private insurers, time spent for travel and treatments.
	Productivity loss	Unpaid work of caregivers and lost productivity due to reduced capacity, long-term disability, early mortality

Source : Adapted from Agence Canadienne des Médicaments et des Technologies de la Santé. (2006). *Guidelines for the Economic Evaluation of Health Technologies: Canada. 3rd Edition.*

Time Horizon

In the reference case, the time horizon should be long enough to capture all potential differences in costs and outcomes associated with the interventions being compared (Fox-Rushby & Cairns, 2005; Gold et al., 1996). The same time horizon must be applied to costs and outcomes for analytical consistency. (Bryan et al., 2017, p. 31)

Future costs and benefits should be discounted. Different discount rates are used to test the robustness of the results. Debates exist regarding the appropriate discount rate to apply to costs and effects, particularly concerning its value and whether the same should be used for both costs and effects. Additionally, there are ethical discussions about whether long-term effects should be discounted, as discounting assigns a smaller value to effects occurring in the distant future. In fact, some argue that effects should not be discounted at all, citing principles of intergenerational justice.

Uncertainty

Sensitivity analysis should be conducted when uncertainty exists to make sure the results are robust.

Decision Criteria

An intervention is *dominating* when the costs are lower, and the results are more effective. Similarly, an intervention is *dominated* if the costs are higher and the results are less effective than the comparators' (Brousselle et al., 2011c; Bryan et al., 2017). A dilemma arises when an intervention is more costly than the alternative yet produces better effects. In this case, the discussion can switch from efficiency to affordability (Brousselle et al., 2011c). Health economists will also recommend using the Incremental Cost-Effectiveness Ratio (ICER) which is "the difference in expected costs between two interventions divided by the difference in expected outcomes" (Bryan et al., 2017, p. 55):

$(\text{Costs of A} - \text{Costs of B}) / (\text{Effects of A} - \text{Effects of B})$.

In Cost-Benefit analysis, the incremental benefits will be compared to differential costs, with the difference between the two being the net social benefit (Brousselle et al., 2011c; Drummond et al., 1998): $\text{Social benefits} = (\text{Benefits of A} - \text{Benefits of B}) - (\text{Costs of A} - \text{Costs of B})$.

Social Return on Investment (or Return on Investment) studies calculate a ratio of monetary benefits over costs for each intervention. The higher the ratio, the higher the return.

An increasing number of attempts can be observed to express the economic, social, and environmental impacts of interventions in monetary terms within ROI and Cost-Benefit analyses. For example, studies are attempting to calculate the net social benefits of reducing greenhouse gas emissions or, conversely, the net social costs of increasing greenhouse gas emissions (National Center for Environmental Economics, 2023). Where a market exists, environmental impacts will be estimated using market prices. For example:

The loss or gain to the commercial fishing industry attributed to a change in water quality could be valued as the difference between the landed quantity before and after the change in water quality multiplied by the value of the species harvested. (Bohmholdt, 2014, p. 55)

When market values are not available, similar methods to the ones used in cost-benefit analysis are used (Bohmholdt, 2014). However, these valuation methods do not account for the intrinsic value of life or for concepts such as biodiversity, equity, happiness, etc.

Limitations of Existing Approaches

Synthetic indices, which are the end-product of ROI, Cost-Benefit and Cost-Utility analyses, have an appealing aesthetic quality and present a seductive format for decision-makers. However, they hide many methodological decisions in a domain where no perfect methods exist. For example, in Cost-Utility analysis, the estimation of utility varies according to the method used and whether they are measured directly or estimated using a classification system (Brousselle et al., 2011c; Brousselle & Lessard, 2011). Utility scores also vary according to the participants (Brousselle et al., 2011c; Brousselle & Lessard, 2011). Another example is the use of discounting and discount rates that are the subject of many ethical and methodological debates.

Furthermore, the rationale and methods used for giving a monetary value to life, as well as to social and environmental impacts, remain highly contested (Brousselle et al., 2016). For instance, giving a monetary value to all interventions' results rests on the principle that everything can be valued, including intangible elements, and nothing has an intrinsic value that is incommensurable. Many economists attribute a monetary value to life, for example, but how would you value your own life if you were asked to give it a price?

Economic evaluations are aimed at making decision-making more rational. However, to facilitate those processes, we rely on elegant synthetic indicators; these can hide many ethically and methodologically controversial choices which, in the end, make the criterion used for decision-making problematic.

A Proposal for Useful Economic Evaluations for Planetary Health

This proposal is based on several observations. First, applying planetary health lenses involves considering dimensions that are not normally integrated into economic evaluations, such as intervention's impacts on equity, prosperity, biodiversity, pollution, and land and

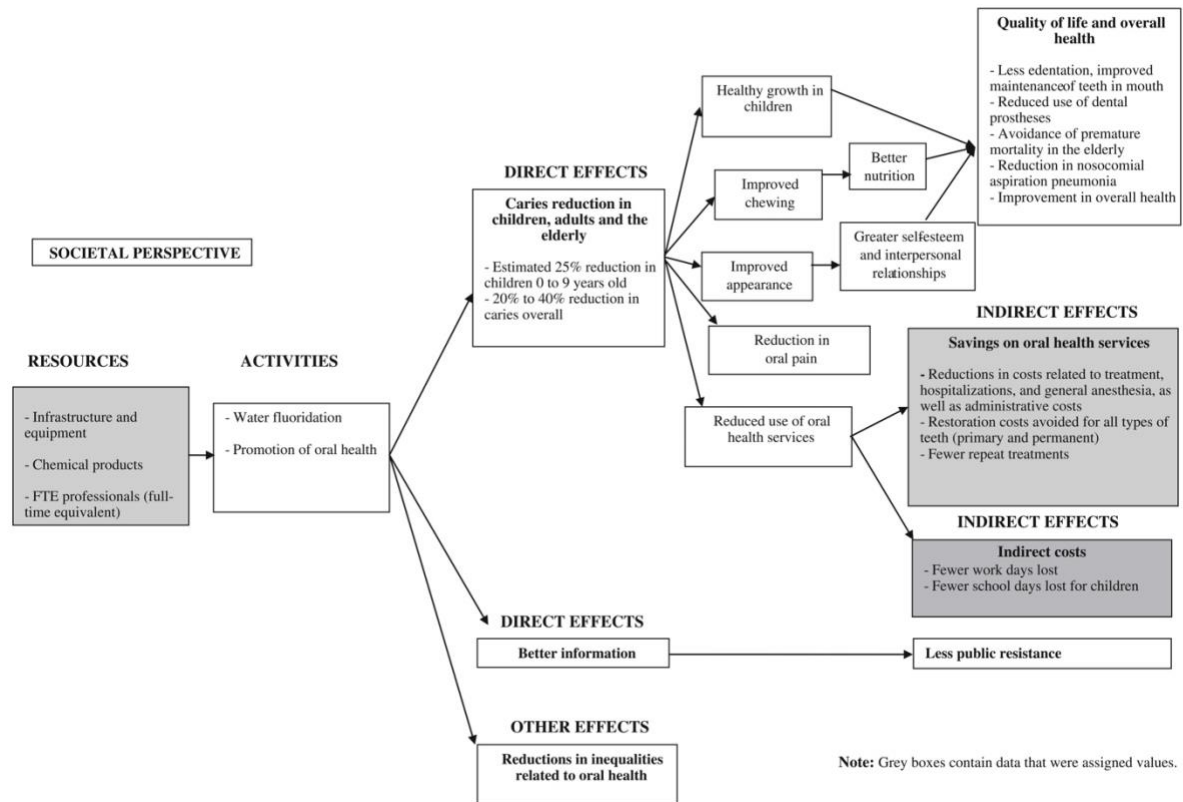
water systems. Recent efforts have been made to move in this direction. However, these analyses present the same ethical and methodological problematic aspects as when giving an economic value to human life in economic evaluations. Second, as evaluators we have a responsibility to be transparent. The less complex the methodology, the more transparent the information tends to be.

Over the years, some researchers and health economists have advocated for Cost-Consequence analysis (CCA) as the preferred approach for economic evaluation. CCA is often considered a partial economic evaluation approach (Bryan et al., 2017; Rabarison et al., 2015) because it presents results in a disaggregated format; however, it's this feature that makes it a good alternative. In CCA,

the predicted effects of the intervention (i.e., clinical outcomes including adverse events, quality of life impact, utility impact) are usually listed in tabular form without aggregating across different dimensions (Coast, 2004; Mauskopf et al., 1998; Williams et al., 2008). Other types of outcomes, such as humanistic outcomes (e.g. increased power over one's life), can be included (Coast, 2004; Simoens & Laekeman, 2005). The same process is applied to resources (i.e., direct medical costs, hospital costs, direct non-medical costs, and indirect costs, such as loss of earnings), with attribution of values and quantities being shown separately (Mauskopf et al., 1998; Williams et al., 2008). CCA can include data from a variety of sources, including, but not limited to, clinical trials and observational and administrative databases (Mauskopf et al., 1998). Some authors stress that this type of analysis allows decision-makers to use their local data on costs and consequences (Eddama & Coast, 2008; Mauskopf et al., 1998). CCA can also present the impact of the intervention on different population groups (Mauskopf et al., 1998). Furthermore, it allows the consideration of different perspectives of analysis and the identification of all relevant dimensions for data interpretation (Mauskopf et al., 1998). The non-aggregated format offers a transparent reading, allowing decision-makers to see clearly what types of information are included and omitted, and where information is quantitative or qualitative (Coast, 2004). (as cited in Brousselle & Lessard, 2011, p. 836)

The costs and effects in CCA are usually presented in a tabular format, though can also be presented as a logic model. Brousselle and colleagues have used this methodology for conducting economic evaluations of public health interventions (Benmahrnia et al., 2017; Tchouaket et al., 2013) (see Figure 10.1). The logic model in Figure 10.1 describes the intervention by presenting all its resources, activities, and effects. The grey boxes identify the elements that were included in calculating the intervention's benefits (Tchouaket et al., 2013).

Figure 10.1 Logic Model of Quebec's Water Fluoridation Program



Source: Tchouaket, E., Brousselle, A., Fansi, A., Dionne, P.-A., Bertrand, E., & Fortin, C. (2013). The economic value of Quebec's water fluoridation program. *Journal of Public Health, 21*(6).

A logic model can be used in economic evaluation for a representation of the full range of results, from direct effects to indirect effects and externalities, as well as to include the logic sequence of results from outputs to outcomes to impacts. Results that can be readily and objectively converted into monetary values may be identified, valued, and compared to costs, enabling an assessment of whether the intervention offers a return on investment. However, a logic model presentation makes considering the whole range of impacts possible without making controversial methodological and ethical choices. It offers transparent information for decision-makers. Most importantly, the use of logic models in economic evaluation allows the inclusion of all relevant planetary health dimensions, alongside those specific dimensions decision-makers care about.

Conclusion

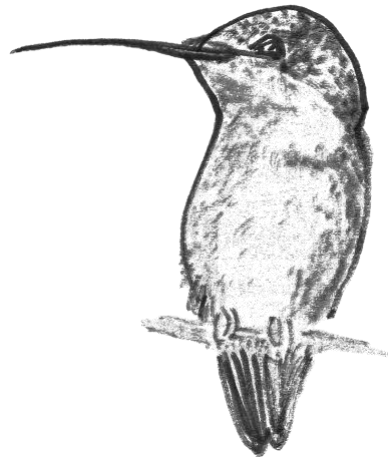
Economic evaluation is almost a field on its own. It is a field that is extremely normative and has many guidelines that are built on previous guidelines. The field has continued to evolve in the same direction for years, despite significant research studies showing that decisions based on economic evaluation recommendations have not necessarily been the more desirable nor the most socially acceptable. Many methodological problems are unresolved. Similarly, persistent ethical issues do not seem to influence the practice. However, it is possible to practice economic evaluation in a manner that allows for genuinely information-based and transparent decision-making while considering the full range of the intervention's impacts.

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11. Needs Assessment

Highlights

- **Relevance:** Needs assessment is a type of evaluation that provides information on the relevance of an intervention based on the needs and priorities of the communities it serves.
- **Needs assessment:** It can be a prospective exercise, analyzing the relevance of an intervention before implementation, or it can assess the relevance of an existing intervention based on an analysis of socio-ecological characteristics.
- **In changing contexts:** Where life—humans, animals, and plants—is threatened, environmental conditions and their relationship to interventions should be integrated into needs assessments. Furthermore, recognizing that disruptive climate change events will occur more frequently and impact the risks communities face, a prospective approach, including socio-environmental scenarios, should be implemented when assessing an intervention's relevance.

Introduction

We all work within specific contexts, each with their own sociological characteristics, ecological boundaries, challenges, and opportunities. In addition, collectively we need to make choices to sustain social programs in a resource-constrained environment. How do we prioritize the right interventions for the right people, according to the place and time? How do we determine if an intervention meets the needs of individuals and the community's commitments? How do we make sure we fund and implement interventions that will have beneficial outcomes for society (Robinson, 2018)? All these questions speak to the intervention's relevancy and the need to examine the alignment between the socio-environmental context and the intervention.

The question of relevance is part of many different evaluation exercises. It is related to needs assessment and it is often a criterion in spending reviews (Robinson, 2018; Rossi et al., 2019).

In a context where life is threatened, the environmental conditions and their relationships with interventions should be integrated into needs assessment exercises. Further, recognizing that disruptive climate change events will happen more frequently and affect the

risks communities will face, a prospective view needs to be implemented when assessing an intervention's relevance.

Defining What is, What should be and For Whom

Needs assessment is a type of evaluation that provides information on the relevance of the intervention before implementation (ex-ante) or information about whether an existing intervention is still relevant, based on the analysis of socio-ecological characteristics of its implementation context (ex-post).

From a program evaluation perspective, needs assessment is the means by which an evaluator determines whether there is a need for a program and, if so, the nature and extent of that need and related implications for program services appropriate to address that need. Needs assessment is critical for the design of new programs, but it is also relevant for established programs when it cannot be assumed that the programs continue to meet the need or that the need has not changed. (Rossi et al., 2019, p. 31)

Needs assessment is a fundamental exercise to make sure programs contribute positively to solving a problem.

Needs assessment is a process or a systematic set of procedures undertaken for the purpose of setting priorities and making decisions about programs and organizational improvement or allocation of resources. The priorities come from identified needs, which are measured discrepancies (gaps) between the current (what is) state of affairs of a group or organization and the desired (what should be) state in regard to variables of interest. (Witkin & Altschuld, 1995, p. 276)

Defining “What is” and “What should be” involves identifying the target population (For whom?) and determining important elements from the context to take into consideration.

Relevance is a relative concept and is determined by taking into consideration different elements, an important one being the population the intervention is intended to serve. Needs assessments can be conducted across country populations, large communities, small groups or more narrowly within organizations (Gupta et al., 2014). In this chapter, for simplicity, the group the needs assessment will include is called “community”. It could include small communities defined by the population an organization serves, or larger communities up to a nation or the population of a country. Clarifying early who the relevant community is will help narrow down the scope of the evaluation.

Contextual Elements and Boundaries

The context is constantly changing, affecting the relevance of interventions: risks and needs change, and new, more effective and/or efficient interventions emerge. Furthermore, when thinking of socio-ecological challenges, meaningful and significant action is urgent calling for the systematic integration of socio-ecological considerations into this exercise. Needs assessment involves defining the context, in particular the elements which will matter the most and the contextual boundaries. How is the context defined? Is it geographically? Is it defined based on other criteria, for example, according to boundaries of communities of practice or organizations?

Ex-ante and Ex-post

The process for conducting the needs assessment will differ depending on whether the intervention already exists or is new. For a new intervention, one will want to characterize the context. Given the pace of change spurred by climate change and other environmental threats and their impact on health and social well-being, evaluators need to adopt a prospective perspective in their analysis. This involves not only conducting a diagnostic of the current context but also anticipating future risks and community needs.

- What challenges is the community facing?
- What major problems will the community face given the impacts of climate warming and other environmental and social changes?
- Which of the important problems identified can be addressed through collective action? Some problems may have no feasible solutions and can be discarded. The feasibility of addressing a problem—considering available technologies and resources—needs to be taken into consideration.
- What should the objectives of the intervention be? What causes should be targeted?
- Which population should be targeted by the intervention?
- What partnerships would be relevant? (adapted from Champagne et al. 2011).

If the program already exists, one may want to question the relevance of the intervention if it feels like the needs or context may have changed (Rossi et al., 2019). Considering the current environmental state and the increasing disruptions impacting communities that require rapid and profound changes, and given that previous needs assessments often took for granted or overlooked environmental conditions, it is pertinent to reconsider interventions

with regard to their socio-environmental impacts. The context has changed and continues to evolve fast.

Conducting a needs assessment of existing interventions is an exercise which consists of deciding whether interventions should be sustained, modified, or terminated. When the program already exists, the question of its relevance includes understanding its contribution in relation to the changing context; questions of relevance then extend to other considerations of existing alternatives and whether there are more effective or efficient options.

Other important Considerations

Needs assessment steps can appear to be straightforward; however, they raise other important ethical dilemmas and questions. Several of these are outlined below.

First, how can the highest priority be determined? The importance of a problem can be assessed according to different criteria: its scope, its gravity, and the characteristics of the people affected. For example, a problem affecting a large population segment but with minor consequences may be considered less important than a life-threatening condition affecting a small population group. There is no rule for determining what makes a problem more important than another one—it comes down to weighing values. That is why engagement activities ensuring consultation and buy-in from different groups is important. Background information identifying a community's main problems can be collected by different means: reports presenting a state of the situation, census data, surveys, key informants, interviews or focus groups, world cafés, brainstorming, etc. (Rossi et al., 2019). To gain social acceptance of the priorities identified, engagement activities with different community groups are crucial.

Second, how can needs be forecasted (Rossi et al., 2019)? A needs assessment based on the historic data will always lag the current situation. Given the time needed to design and implement an intervention, there is a risk that an intervention based only on existing (retrospective) data will be outdated when fully implemented. That's not a certainty, of course, yet it is a risk. A prospective analysis (perhaps a consideration of scenarios) should be conducted to analyze what the risks will be.

Third, how can socio-environmental considerations be integrated? Compared to current needs assessment practices, new steps need to be introduced for considering planetary health and creating conditions that contribute to positive eco-systems, offer protection from climate events, and increase resiliency. In particular, when conducting a diagnostic on the

context to identify needs, the evaluator should adopt a holistic approach in their forecast of the context's evolution. International commitments to reduce greenhouse gas emissions and preserve and promote biodiversity (United Nations, 2015, 2022) should be included in priority-setting activities and decision-making, as should the critical dimensions for all kinds of life to thrive on the planet (Richardson et al., 2023; Steffen et al., 2015).

Furthermore, with the climate already warming significantly, climate events such as flooding, heatwaves, droughts, and fires will happen more regularly and more severely and create new risks for communities and organizations. It is our responsibility to be responsive to this new evolving state of the world, which requires envisioning what these risks will be and consider both mitigation and adaptation measures, as well as ways to increase community and population resiliency (Brousselle et al., 2020). Additionally, given the linkages between environmental injustice and environmental crises, socio-environmental conditions should be considered in all needs assessments, not just environmental conditions alone. Finally, the evaluator should consider the intervention's impacts on natural and human systems when contemplating the intervention's potential to meet community's needs. The Planetary Health Framework can offer support for integrating these dimensions into a holistic implementation approach to relevance analysis (Brousselle & McDavid, 2021).

Next Steps?

Needs assessments analyze the context's characteristics to identify the intervention that would be the best match for solving a perceived problem affecting a specific context and community. Needs assessment will often be conducted using a combination of criteria and evaluation methodologies. In spending reviews the intervention's effectiveness and efficiency are criteria used in complementarity to the relevance criteria to determine if the intervention should continue to be funded.

Other evaluation questions and methodologies can help conducting needs assessments. For example, an ex-ante needs assessment can naturally lead to conducting a reverse logic analysis to identify interventions suited to a specific context that are promising for achieving the objectives. A reverse logic analysis strategy could also be pertinent to inform ex-post needs assessment, as the expectation is to implement knowledge-informed priority-setting and decision-making.

A Political Exercise

As mentioned earlier, relevance is a relative concept. Its meaning varies according to different groups' perspectives or who sponsors the analysis. In an ideal world, one would engage with different community groups to elicit and unpack what a relevant intervention should be, or engage with a diversity of actors throughout the prioritization process to align with a broader definition of relevancy: "Is the program trying to achieve an outcome for society that is important?" (Robinson, 2018, p. 306). "Needs assessment requires carefully analyzing a situation and building support for action" (Gupta et al., 2014, p. 33). Priorities may differ according to the groups involved (Gupta et al., 2014). Implementing the right engagement activities is a way to make sure decisions will be socially legitimate and accepted. They can also contribute to making programs known and building meaningful relationships with a diversity of actors (Gupta et al., 2014).

Needs assessments, because they can support priority-setting and budgetary decisions, can be very political exercises (McDavid et al., 2019). Needs assessment is, for example, one important element of spending reviews. In spending reviews, relevance is generally one criterion among others. For example, Robinson identifies six criteria employed during spending reviews to identify savings options: relevance, duplication, effectiveness, efficiency, equity, and market failure (Robinson, 2018, p. 306). Marchand and Brousselle note that in the spending review exercise which took place in the Province of Quebec in 2014, decisional criteria were (1) relevance (the objectives relate to the needs of the targeted populations and the government priorities; a program that could have been created in the current context; a program that, if dismantled, would create important negative social, economic, and environmental consequences), (2) effectiveness, and (3) efficiency (Gouvernement du Québec, 2014; Marchand & Brousselle, 2018, p. 399).

The official rationale for spending reviews has been that they ensure that the most relevant interventions are funded and others are discarded; however, spending reviews are often used when the political priority is drastic cuts in public spending. Determining relevance is more than just a technical exercise. It also involves weighing competing values and their reflections in political priorities.

It is not unusual to observe direct opposition and barriers to data access when programs are threatened by the exercise. As noted earlier, many choices must be made during a needs assessment. Its validity depends, at least in part, on whether the process is recognized as legitimate by the different parties—something that cannot be assured if the process is contentious from the outset. An evaluator's ability to facilitate discussions and communicate effectively will be critical to the success of the process.

In scoping a needs assessment, one consideration is the diversity of values and interests in a community. Generally, homogeneous communities will present fewer challenges in terms of assessing needs. Smaller communities can also be more straightforward for the same reasons. The evaluator should anticipate that social media and other sources of information will influence community preferences in setting priorities and their understanding of the problem. Disinformation about climate change related risks can divide communities.

Finally, including socio-environmental considerations in the intervention's analysis of relevance is likely to completely switch how priorities are identified. As these criteria have not been included in prior evaluations, their integration could lead to eliminating some interventions and choosing others with more positive impacts. Conducting evaluations on an intervention's relevance using planetary health lenses could be an important lever towards implementing the kind of transformation that is needed for truly addressing the current socio-environmental challenges.

Summary

Table 11.1 summarizes the main questions and steps for conducting a needs assessment.

Table 11-1 *Main Questions and Steps for Needs Assessments*

	Ex-Ante Needs Assessment	Ex-Post Needs Assessment
Defining the context boundaries	How is the community defined?	How is the community defined?
Engagement	<p>With whom should we engage? (set a plan and refine later)</p> <p>What does relevancy mean? What are the groups' expectations?</p> <p>Plan for communication activities.</p>	<p>With whom should we engage? (set a plan and refine later)</p> <p>What does relevancy mean? Identify criteria. What are the groups' expectations?</p> <p>Plan for communication activities.</p>
Pre-assessment: scoping out risks and problems	<p>What are future risks?</p> <p>What important problems will the community be facing?</p> <p>What important problems the community will be facing?</p> <p>More specifically, what are socio-environmental risks (consider biodiversity, pollution, management of land and water, equity, health, prosperity)?</p> <p>What would contribute to building stronger communities?</p> <p>What are the gaps between what is (or what will be) and what should be?</p> <p>Who should be engaged further? How should results be communicated?</p>	<p>Is the context always the same as when the intervention was implemented? If not, what has changed (think about the context itself but also of plausible alternatives to the intervention)?</p> <p>What are future risks?</p> <p>What important problems will the community be facing?</p> <p>What important problems the community will be facing?</p> <p>What are socio-environmental risks (consider biodiversity, pollution, management of land and water, equity, health, prosperity)?</p> <p>What would contribute to building stronger communities?</p> <p>Who should be engaged further? How should results be communicated?</p>

<p>Identifying the problem and defining the objectives</p>	<p>Among the important problems identified, what are those that we can collectively act on?</p> <p>What causes should be targeted? What specific objectives should the intervention aim to achieve?</p> <p>Do these choices hold when using planetary lenses (use rapid assessment tools for planetary health (Brousselle et al., 2024b)? If not, what are better alternatives?</p> <p>What should the target population be for the intervention?</p> <p>What partnerships would be relevant?</p>	<p>Are the problems targeted still important problems?</p> <p>Are the objectives of the intervention still the most desirable? If the socio-environmental impacts were not considered, analyze the intervention with a planetary health perspective (use rapid assessment tools for planetary health, (Brousselle et al., 2024b).</p> <p>Is the targeted population still the most pertinent?</p> <p>Are all partnerships relevant and all relevant partnerships in place?</p> <p>Do more desirable alternatives exist (consider impacts on planetary health among other criteria)?</p>
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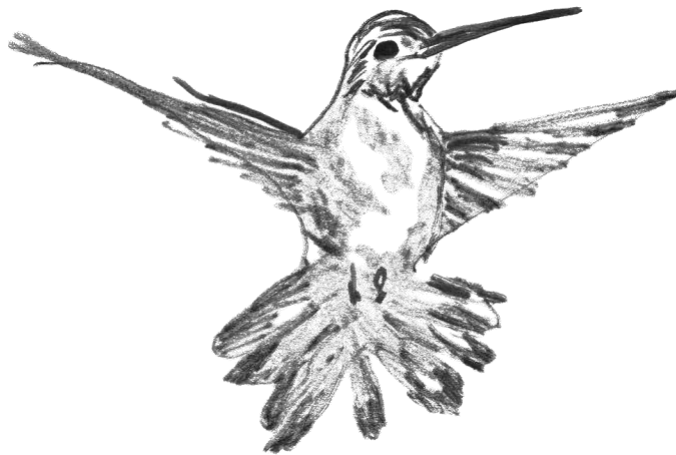
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12. Monitoring

Highlights

- **Monitoring:** Monitoring is primarily used for performance management purposes, including learning, control, and accountability. Monitoring tracks progress toward pre-determined targets in specific areas of focus.
- **Different areas of focus can be selected:** The fidelity of the intervention compared to the original plan (including costs), its reach, the quality of the intervention, whether the goals were achieved, and its impacts on planetary health.
- **Implementing a monitoring system:** It should be done with caution, as it introduces a new set of incentives that can influence agents' behaviors.

Introduction

Monitoring is a “cousin” to evaluation research questions we covered in previous chapters. As related concepts, they complement and sometimes rely on each other, yet they are different. Monitoring is an exercise that compares different aspects of the intervention to some norms. It is used to record the intervention evolution as it tries to achieve some pre-determined objectives. Monitoring is intended to gather information about the performance of an intervention or an organization. Unlike evaluation research—which examines causal relationships between elements related to the intervention—monitoring does not seek to establish causality (McDavid et al., 2019). Instead, it focuses on tracking progress through selected indicators to provide an ongoing sense of how the intervention is unfolding.

The arrows in Figure 4.3 illustrate the possible monitoring focal points: resources, activities, and intervention results. Monitoring information can be used in some evaluative research projects, but its main purpose and how it is conducted are different. Monitoring is used mainly for management purposes, including learning, control, and accountability (Van Dooren et al., 2015).

Monitoring systematically tracks progress against a range of predetermined areas, often against performance indicators and targets. (Markiewicz & Patrick, 2022/2016, p. 122)

Monitoring reports can provide crucial information when conducting evaluations.

Evaluation uses the results of monitoring, complemented by other forms of data gathering, to undertake further and deeper investigations, and through a logical pattern of reasoning, arrives at evaluative conclusions. (Markiewicz & Patrick, 2022/2016, p. 123)

Focus

Monitoring refers to the planned, ongoing, and systematic process of collecting and analyzing program-related information in order to inform management and decision-makers about implementation progress and the program's performance in relation to its stated objectives and expectations (Markiewicz & Patrick, 2022/2016). Different focuses can be determined. The first step consists of identifying what needs to be monitored. Criteria include the fidelity of the intervention in comparison to the original plan (including costs); the reach; the intervention quality; whether or not the goals were achieved; and impacts on planetary health.

These five criteria apply to either the structure, the process, or the results (see Table 12.1). Quality includes two dimensions: a technical dimension that involves the application of science or technology to manage the problem, and an interpersonal dimensions which includes factors such as client satisfaction or dimensions related to "art of care" (Donabedian, 1980).

Table 12-1 *Performance Measurement Criteria*

	Fidelity (includes costs)	Reach	Quality	Goal Achievement	Impacts on Planetary Health
Resources/ Structure	x				
Process	x	x	x		
Results				x	x

Source: Adapted from Champagne, F., Hartz, Z., Brousselle, A., & Contandriopoulos, A. P. (2011d). L'appréciation normative. In A. Brousselle, F. Champagne, A. P. Contandriopoulos, & Z. Hartz (Eds.), *L'évaluation: concepts et méthodes. Deuxième édition mise à jour*. Les Presses de l'Université de Montréal: 98.

Establishing a Monitoring System

Once the focus is determined, the next step consists of identifying indicators, targets, and sources of data. Table 12.2 provides an illustration of the different focal points and the corresponding criteria, indicators, targets, data sources, and collection processes.

Choosing targets to monitor is important. According to Champagne et al. (2011d), targets can be identified from different sources such as best practice guidelines, institutional norms, actual practices in similar organizations, and experts' views. The source will be identified according to the monitoring system's purpose. The evaluator may choose to select representative targets, such as the mean, or opt for elitist ones (Champagne et al., 2011d). For example, an education program aimed at excellence may choose not to compare its programs to the domain's average achievement but instead compare itself to the best ones or specific targets of excellence in sub-areas. Targets can be ambitious but should be achievable (Markiewicz & Patrick, 2022/2016).

Monitoring can adopt a longitudinal perspective and track progress over time, using the initial data collected as a baseline for monitoring evolution over time. Monitoring can also be used to compare performance across programs or similar organizations or units (McDavid et al., 2019).

When designing a monitoring system, the evaluator should be specific about the areas that will be monitored and ensure measurable indicators are selected, data is accessible, and the organization can collect and analyze it (Markiewicz & Patrick, 2022/2016).

Table 12-2 *Developing the Monitoring Plan*

Focus	Criteria	Sample Questions	Indicator	Target	Data Source	Whose responsibility and timing
Structure	Fidelity	Is the intervention implemented as planned?	Investments Recruitment of professional Qualifications	As set in the plan		
Process	Fidelity	Are all activities taking place? Are the costs respected?	Amount and number of activities delivered Operation costs	As set in the plan		
	Reach	Is the target population participating as expected?	Target population versus participants	As set in the plan		
	Quality	Are the activities offered according to best practices?	Wait times Survival rates	According to best practices		
		Are clients satisfied (interpersonal dimensions of quality)?	Satisfaction rates Dissatisfaction	Agreed on levels Nb of complaints		
Results	Goal achievements	Determined according to the logic model, for example, are students succeeding?	Graduate rates Post-graduate employment Studies duration	Best results in similar programs		
	Environmental impacts: pollution, biodiversity,	Is the intervention meeting its	Greenhouse gas emissions	Established targets		

	land and waters	environmental commitments?	Use of plastic Greening of parking lots			
	Impacts on human systems	Is the intervention contributing to better health, greater equity and more prosperity?	Mental health indicators Rates of burn out Diversity of beneficiaries Proportion of spending in local business	According to best practices or agreed pre-set targets		

Source: Adapted from Markiewicz, A., & Patrick, I. (2022). *Developing Monitoring and Evaluation Frameworks*. SAGE Publications, and from Champagne, F., Hartz, Z., Brousselle, A., & Contandriopoulos, A. P. (2011d). L'appréciation normative. In A. Brousselle, F. Champagne, A. P. Contandriopoulos, & Z. Hartz (Eds.), *L'évaluation: concepts et méthodes. Deuxième édition mise à jour*. Les Presses de l'Université de Montréal.

Reporting and Other Considerations

Once the data collected, how will it be used? Planning for the use of the results should be considered from the start. Evaluators can consider questions such as: How will the data be compiled? How regularly will it be shared? And with whom— managers, organizational professionals, intervention beneficiaries, or the general public? The compiled information can be used for learning, steering, and formative purposes with the intention of identifying areas and strategies of improvement carried out by the organization (Van Dooren et al., 2015). It can also be used to make decisions about whether to pursue an initiative (i.e. control and accountability functions).

Implementing a monitoring system requires careful planning. Success depends on a series of steps, including engaging with the organization, consulting to build support and anticipate resistance, and designing the system to be both useful and minimally burdensome. It is also essential to ensure that data collection, compilation, and reporting are straightforward. McDavid et al. outline the key steps for designing and implementing performance measurement systems (see Table 12.3).

Table 12-3 Key Steps to Designing and Implementing a Performance Measurement system

1.	Leadership: Identify the organizational champions of this change.
2.	Understand what a performance measurement system can and cannot do and why it is needed.
3.	Communication: Establish multichannel ways of communicating that facilitate top-down, bottom-up and horizontal sharing of information, problem identification, and problem-solving.
4.	Clarify the expectations for the uses of the performance information that will be created.
5.	Identify the resources and plan for the design, implementation, and maintenance of the performance measurement system.
6.	Take the time to understand the organizational history around similar initiatives.
7.	Develop logic models for the programs or lines of business for which performance measures are being developed.
8.	Identify constructs that are intended to represent performance for aggregations of programs or the whole organization.
9.	Involve prospective users in reviewing the logic model and constructs in the proposed performance measurement system.
10.	Translate constructs into observable measures.
11.	Highlight the comparisons that can be part of the performance measurement system.
12.	Reporting results and then regularly review feedback from users and, if needed, make changes to the performance measurement system.

Source: McDavid, J., Huse, I., & Hawthorne, L. R. (2019). *Program Evaluation and Performance Measurement. An Introduction to Practice. Third Edition.* Sage Publications: 375.

Gaming and Other Behavioural Effects

By establishing a monitoring system, a new set of incentives are implemented. One should be very cautious, not only on the choice of focus, questions, indicators, and norms, but most importantly, attention should be paid to the distortion a monitoring system can create. When people know that their actions are being monitored, they may change their behaviours; for example, in focusing on reaching the set targets they may decide to reduce their efforts in other areas of their work (Van Dooren et al., 2015).

Once incentives are put in place, one cannot change the system easily. In fact, studies have shown that there is no back-to-normal; getting rid of a system results in a new reinterpretation of the rules. People will adapt their behaviours to the system with positive impacts and potentially negative impacts too. Furthermore, in the longer term, the performance system in place may lose its relevance due to the “performance target paradox”:

Behavioural effects, both functional and dysfunctional, lead to a clustering of performance around targets. Over time, indicators lose their ability to differentiate between high and low performers as organisations adjust their performance to align with the indicators. Meyer and Gupta (1994) refer to this phenomenon as the performance paradox (also highlighted by Van Thiel and Leeuw (2002)). We prefer the term performance target paradox because the effect described by Meyer and Gupta should be linked to how performance is measured rather than merely to the pursuit of performance in itself. (as cited in Van Dooren et al., 2025)

Finally, once a monitoring system is put in place and effectively used as a control or an accountability mechanism, some gamification can occur. It happened in the Province of Quebec when the Ministry of Health decided to monitor the patient’s length of stay and the number of stretchers in emergency rooms. Some hospitals felt unable to improve their numbers and decided to create side rooms where emergency patients were placed. As these locations were not considered part of the emergency room, this patient data was not compiled in the Ministry monitoring system. Scores improved, but not patients’ situations.

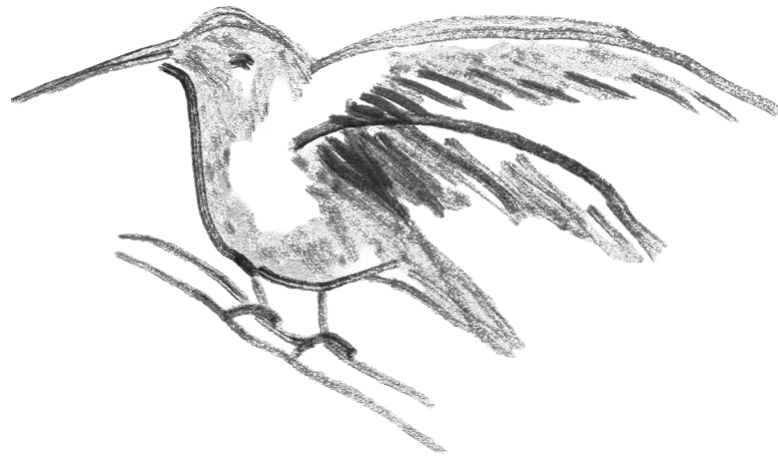
Conclusion

Implementing monitoring systems is often justified by the desire to become highly productive, effective, or efficient. However, such systems can be onerous to implement and inevitably distort employees’ behaviours, which leads to positive and negative

consequences. Monitoring systems' learning function is the most interesting because of its potential to really improve the intervention and steer organizations in innovative strategic directions. However, to achieve this objective, all facets of the system, including its reporting and potential use, should be carefully designed to ensure monitoring systems' learning function is activated, rather than control and accountability functions.

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13. An Example: Evaluating a Local Government Official Community Plan Using Planetary Health Lenses

By Kai Mountfort and Astrid Brousselle

This chapter illustrates how the Planetary Health Framework was applied to evaluate an Official Community Plan (OCP) for Sooke, a small municipality in British Columbia, Canada. The project formed the basis of Kai Mountfort Master Thesis. We present a snapshot of this evaluation, illustrating how the Planetary Health Framework dimensions can be used to assess a public policy. The objective is to highlight the unique perspective that a planetary health lens can offer. We do not aim at presenting the full results of this evaluation project which are available online (Mountfort, 2025).

Introduction

As of 2021, 73.7% of Canada's population resides in urban environments (Statistics Canada, 2022). Municipalities are important sources of greenhouse gas emissions, and they often are the first to experience the disastrous impacts related to climate change (Affairs, 2019; Dale et al., 2020). In Canada, 653 jurisdictions from all levels representing 100% of the Canadian population have declared a climate emergency (Climate Emergency Declaration, 2024). Municipalities are critically positioned to respond to climate change and other environmental challenges due to rising populations in urban areas, as well as the tangible nature of municipal jurisdictions (Statistics Canada, 2022, see section 1.2). Municipalities, as key actors in local governance, are well positioned to play a significant role in addressing these challenges through the implementation of effective policies and initiatives aligned with the Planetary Health Framework (Statistics Canada, 2022, see section 1.4).

Under British Columbia's Local Government Act (2024), municipalities can choose to enact an optional bylaw entitled an Official Community Plan (OCP) (District of Sooke, 2022), which is a long-range (20-30 years) visionary document that guides municipal decision-making. Once an OCP is adopted, municipalities must ensure their bylaws and actions are aligned with the plan. The OCP establishes policies that guide the locations of "homes, businesses and industry, agriculture, and parks and other public spaces" while directly affecting "transportation choices, housing affordability and options, community character, protection of ecological and agricultural areas, resource management, economic vitality, and financial costs associated with paying for District services such as pipes and streets" (District of Sooke, 2022, p. 18). Once enacted, all Sooke municipal policy formulation and implementation must align with the OCP.

The OCP applies to the whole Sooke municipal area and “supports areas of mutual understanding between the District of Sooke and the T’Sou-ke Nation” (District of Sooke, 2022, p. 19). The partnership with the T’Sou-ke Nation was formalized through a Memorandum of Understanding in 2007 and represents a nation-to-nation relationship in areas of the “provision of services, land use planning and development, heritage sites and cultural protection, shared and cross-boundary issues, shared services, and economic opportunities” (District of Sooke, 2022, p. 23). T’Sou-ke Nation, as represented by the Te’mexw Treaty Association, is in modern treaty negotiations with the federal and provincial governments since 1994 regarding matters of governance, harvesting, lands, resources and fiscal issues (District of Sooke, 2022).

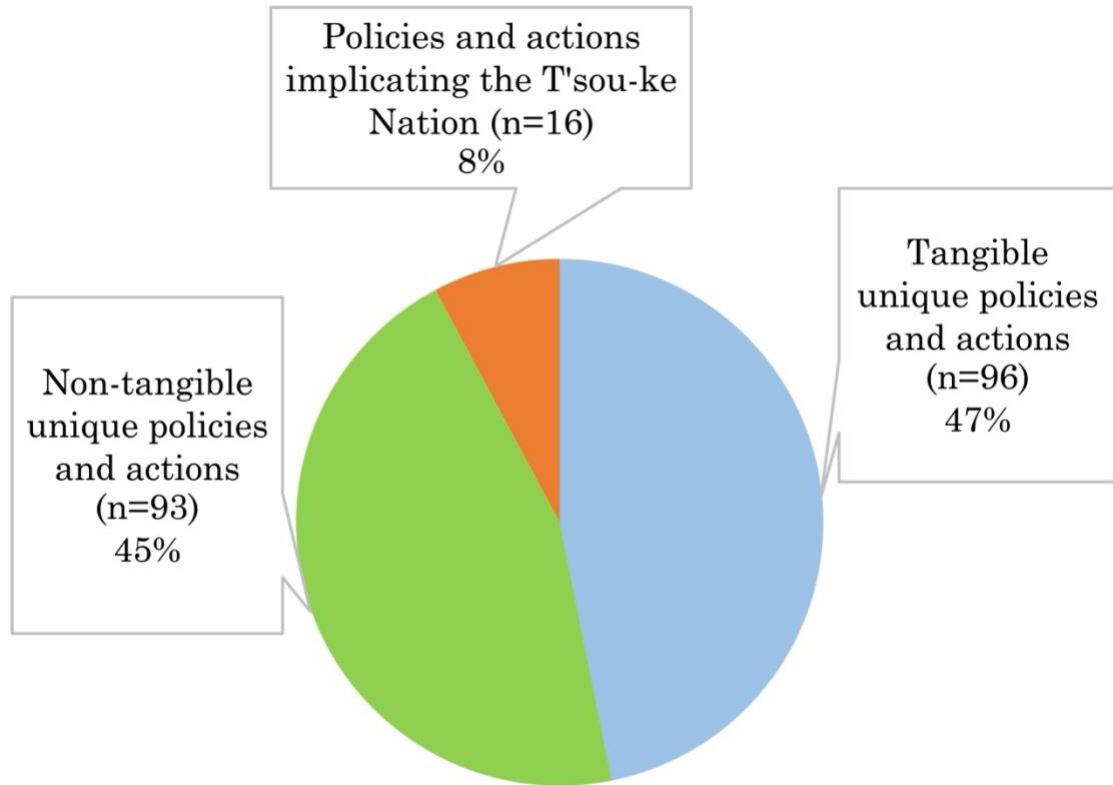
The objective of this project is to assess whether and under what conditions the OCP will contribute to planetary health. This evaluation used a theory-based approach relying on a mixed-methods approach, that combined document analysis, focus groups, and questionnaires. This methodology provided a comprehensive understanding of the OCP’s strengths, potential risks, and areas for improvement.

Characterizing the OCP Within the Context of the Planetary Health Framework

It was not easy to represent the OCP within a logic model. It is a document which identifies 329 policies and actions linked to multiple layers of goals, with some duplications due to their associations with more than one goal. This first step of the project consisted of drafting a representation that would help participants develop their own position on the OCP.

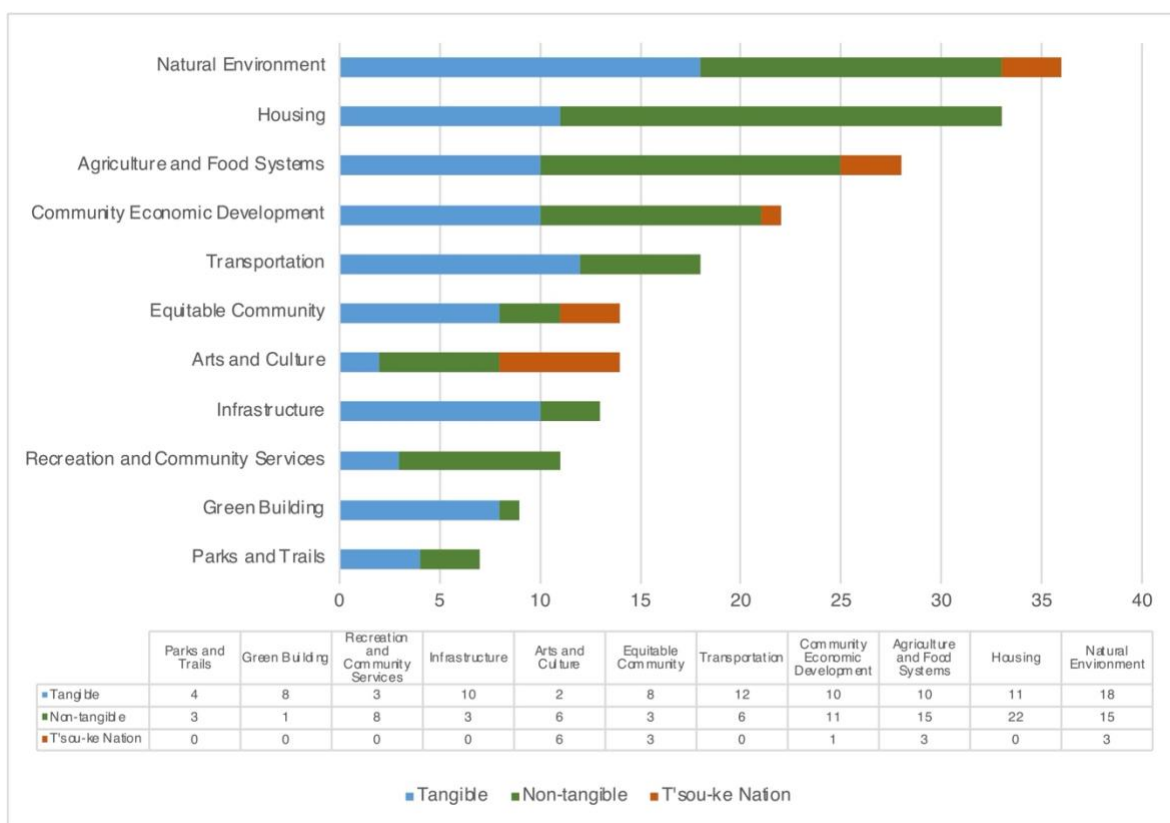
Next, the OCP policies and actions were regrouped under major areas of community policies: agriculture and food systems, arts and culture, community economic development, equitable community, green building, housing, infrastructure, natural environment, parks and trails, recreation and community services, transportation. All actions were then assessed as tangible or non-tangible, and actions specifically involving the T’sou-ke Nation were identified. Tangible policies and actions are palpable and concrete, and non-tangible policies and actions are abstract, vague and not easily measurable (e.g., language such as to engage, discuss and meet with...). While tangible policies and actions are important for public accountability, non-tangible policies and actions are also critical in delivering the OCP’s commitments. Non-tangible policies and actions often involved conversations with key partners in furthering an important initiative for the community. A summary table of the OCP was built and handed to participants. Figures synthesizing the information were created (see Figures 13.1 and 13.2).

Figure 13.1 *The Official Community Plan's Unique Policies and Actions, Categorized by Tangible, Non-Tangible and T'sou-ke Nation*



Source: Mountfort, K. R. (2025). *An Evaluation of the District of Sooke's Official Community Plan from a Planetary Health Perspective*. University of Victoria. <https://hdl.handle.net/1828/20884>

Figure 13.2 Numbers of Unique Policies and Actions from the Official Community Plan Sorted Most to Least by Community Policy



Source: Mountfort, K. R. (2025). *An Evaluation of the District of Sooke's Official Community Plan from a Planetary Health Perspective*. University of Victoria. <https://hdl.handle.net/1828/20884>

Data Collection

Focus groups were conducted to assess the program theory of the OCP against the Planetary Health Framework's dimensions. 17 participants were drawn from a range of sectors that could speak to the various dimensions of the Planetary Health Framework, ensuring representation that advocated for, and empowered, the community's diverse voices and lived experiences.

Participants were recruited through Facebook, word-of-mouth and posters on local bulletin boards. Participants had to be Sooke residents and were selected based on their identities and professional/voluntary associations, as rich knowledge is generated when participants

are among “people like themselves” (Krueger, 2014, p. 3). The identities of the focus groups were designed in a way to speak to the different dimensions of the Planetary Health Framework and included:

1. Social Group,
2. Nature and Wellness Group,
3. Business Group,
4. Governance Group,
5. District of Sooke Group.

Although the study sought to include the T’sou-ke Nation as one of the focus groups, they were not able to participate due to capacity and timing concerns.

Materials were developed to facilitate the focus groups, including a presentation of the synthesis of the OCP, a summary handout of the OCP policies and actions, and an anonymous questionnaire for participants to systematically assess the OCP following the group discussion.

Participants were asked to respond to four main discussion questions during focus groups:

- How likely is it that the OCP will achieve its objectives?
- What do you see as the key strengths of the OCP with regards to planetary health?
- What do you perceive as the pitfalls or challenges of the OCP with regards to planetary health?
- Do you think the OCP has the potential to make Sooke a greater contributor to planetary health?

Participants were given time at the end of the focus group to fill out anonymous questionnaires, which provided an avenue to voice all opinions they might not have shared during the focus group sessions.

Findings

The data from the focus groups and the questionnaires (17 participants) was analyzed to identify the OCP’s strengths, potential risks, and areas for improvement according to the planetary health dimensions.

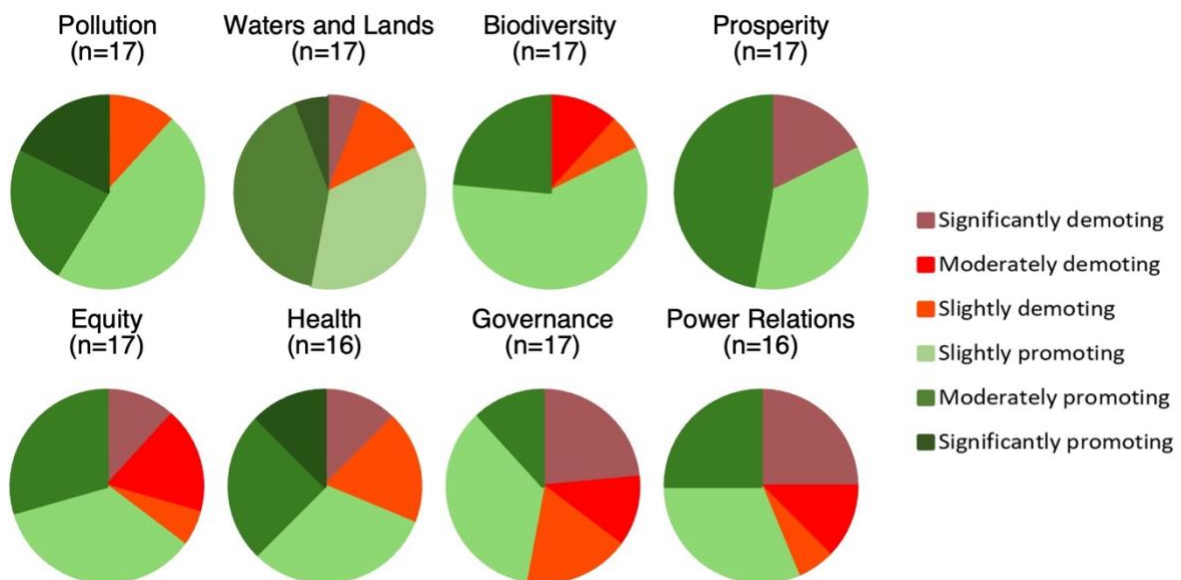
Shared Opinions

Many saw that the OCP, as drafted, will support most of the planetary health dimensions well. Most opinions from the five focus groups centred on the governance and power relations dimensions of the Planetary Health Framework. Key themes that emerged from the focus groups included the need for transparent decision-making, better community engagement, and addressing the challenges of Sooke’s commuter town status.

OCP’s potential contribution to planetary health

The questionnaire offered an overview of the OCP’s assessment using planetary health lenses (see Figure 13.3).

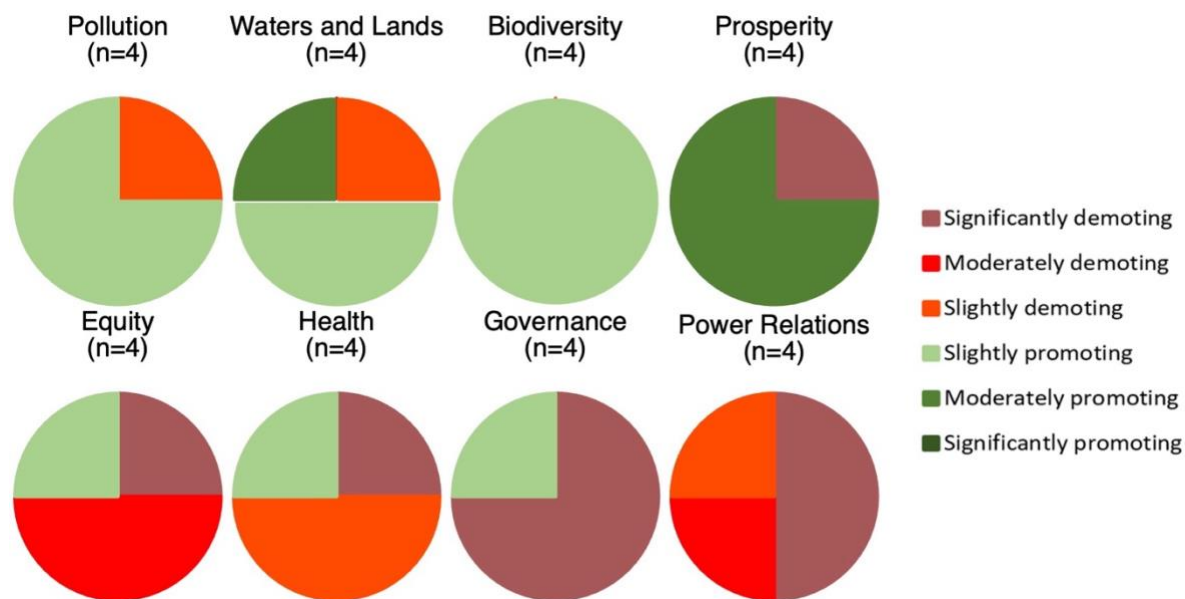
Figure 13.3 Snapshot of All Questionnaire Responses Across Focus Groups regarding Participant Perceptions on the Official Community Plan’s Alignment with Planetary Health



Source: Mountfort, K. R. (2025). *An Evaluation of the District of Sooke’s Official Community Plan from a Planetary Health Perspective*. University of Victoria. <https://hdl.handle.net/1828/20884>

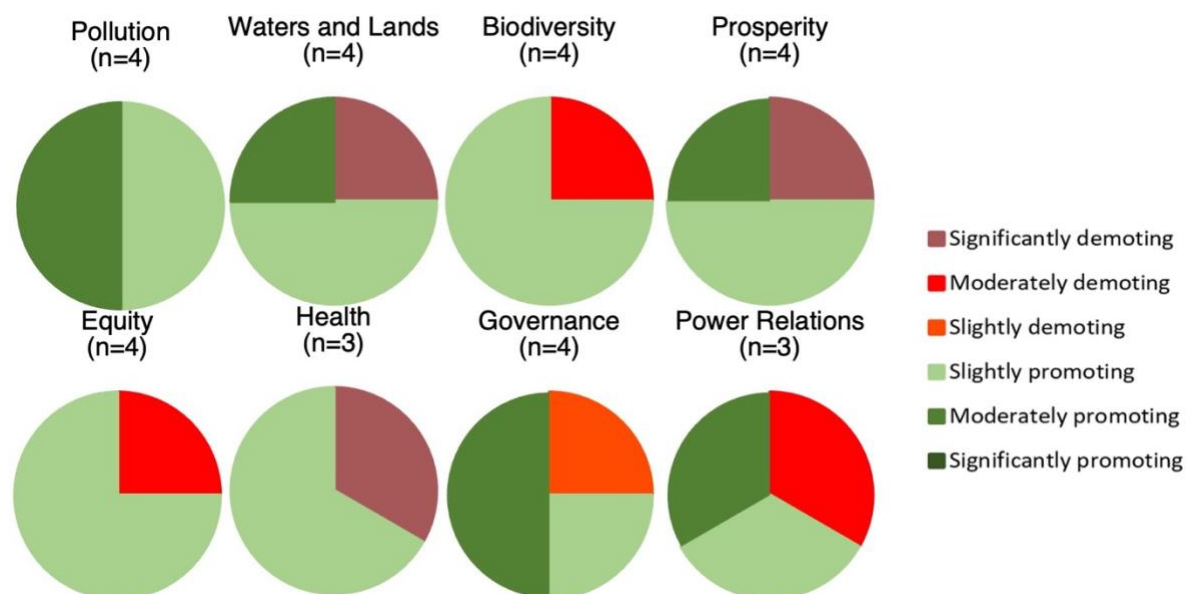
Interestingly, but not surprisingly, the assessment varied across groups. Figures 13.4 and 13.5 show how results differed according to the type of respondents. Here we present the results from the Social Group and the Business Group, as an example of groups’ contrasting views. Group positions were elicited in the main report but are not presented in this chapter.

Figure 13.4 Snapshot of Questionnaire Responses from the Social Group



Source: Mountfort, K. R. (2025). *An Evaluation of the District of Sooke's Official Community Plan from a Planetary Health Perspective*. University of Victoria. <https://hdl.handle.net/1828/20884>

Figure 13.5 Snapshot of Questionnaire Responses from the Business Group



Source: Mountfort, K. R. (2025). *An Evaluation of the District of Sooke's Official Community Plan from a Planetary Health Perspective*. University of Victoria. <https://hdl.handle.net/1828/20884>

Each dimension of the Planetary Health Framework was then documented using the focus group verbatims to explore how the OCP's policies and actions might contribute to or detract from planetary health. Table 13.1 presents a summary of the findings.

Table 13-1 *OCP's Potential Contributions to Planetary Health*

Planetary Health dimensions	Strengths	Risks
Pollution	The OCP included measures to reduce pollution, such as promoting green infrastructure and sustainable transportation options.	Urban sprawl and increased traffic congestion were identified as potential sources of pollution. Participants emphasized the need for better infrastructure to support non-car travel.
Waters and Lands	The OCP's focus on protecting natural environments, such as watersheds and green spaces, was well-received. The Trails and Parks Master Plan (an accompanying policy document to the OCP) was highlighted as a positive initiative.	Concerns were raised about the lack of enforcement and monitoring of environmental protections. Participants called for stronger regulations and better coordination with regional authorities.
Biodiversity	The OCP's policies on biodiversity conservation, including habitat protection and green space expansion, were praised.	The need for clearer metrics and stronger protections for biodiversity was emphasized. Participants highlighted the importance of mitigating the impacts of development on local ecosystems.
Prosperity	The OCP aimed to promote economic prosperity by supporting local businesses and creating job opportunities. The focus on sustainable economic development was appreciated.	Balancing economic growth with environmental sustainability and community well-being was identified as a challenge. Participants stressed the need for diverse economic opportunities and better support for local businesses.
Equity	The OCP's commitment to promoting equity and inclusion was recognized. Initiatives to support marginalized communities and improve accessibility were seen as positive steps.	The lack of clarity and inclusivity in the OCP's operational elements was a concern. Participants called for more engagement with diverse community groups to ensure their needs are addressed.
Health	The OCP's focus on promoting health through green spaces, recreational facilities, and walkable infrastructure was well-received.	Limited access to healthcare services and the need for better emergency preparedness were highlighted. Participants emphasized the importance of addressing mental health and providing resources for youth.

Governance	The OCP was seen as a significant improvement over previous plans, with a strong focus on community values and aspirations.	Concerns about decision bias, lack of transparency, and insufficient resources for implementation were raised. Participants called for better coordination and accountability in governance.
Power relations	Efforts to engage the community and promote participatory decision-making were appreciated. The Memorandum of Understanding with the T'sou-ke Nation was seen as a positive step towards reconciliation.	The influence of lobby groups and the need for more inclusive decision-making processes were significant concerns. Participants stressed the importance of ensuring that all community voices are heard and valued.

Source: Mountfort, K. R. (2025). *An Evaluation of the District of Sooke's Official Community Plan from a Planetary Health Perspective*. University of Victoria. <https://hdl.handle.net/1828/20884>

Recommendations

Based on the evaluation, several recommendations were made to improve the OCP's alignment with planetary health. For the purposes of this subsection, the three nature dimensions of the Planetary Health Framework were amalgamated, which include pollution, waters and lands, as well as biodiversity. Selected recommendations are presented below.

1. Nature

- Implement green infrastructure and adopt net-zero standards.
- Protect biodiversity and promote sustainable development practices.
- Densify residential units to conserve natural areas.

2. Prosperity

- Diversify local businesses and improve transportation options.
- Support local economy and create more commercial spaces.
- Promote circular economies and endorse local businesses.

3. Equity

- Promote diversity and inclusion within governance.
- Engage marginalized communities and support reconciliation efforts.
- Ensure public buildings and businesses are accessible to all.

4. Health

- Increase access to healthcare services and improve emergency preparedness.
- Provide resources for mental health and support youth.

5. Governance

- Implement transparent and accountable decision-making.
- Establish an accountability framework with measurable indicators.
- Allocate sufficient resources for implementing the OCP.

6. Power Relations

- Empower community involvement and ensure inclusive decision-making.
- Address the influence of lobby groups and ensure decisions represent all stakeholders.

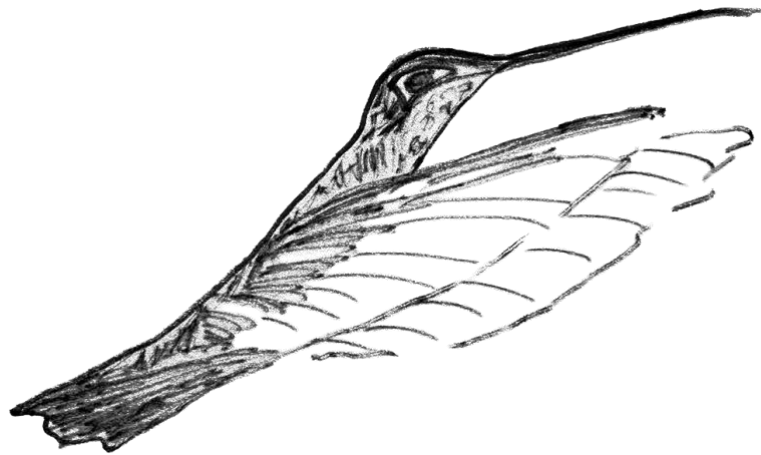
An extended list of suggestions to improve the OCP, as identified during focus group discussions, was presented for the District of Sooke to inform future directions of the draft OCP (Mountfort, 2025). The results of the study were made available to research participants and the public.

Conclusion

The use of the Planetary Health Framework to evaluate Sooke's OCP provided unique insights into the plan's strengths and areas for improvement for greater impacts on natural and human systems. By adopting a holistic approach that considered the interconnectedness of human and environmental health, it was possible to not only assess the contributions of the OCP but also to provide recommendations on how to strengthen the project. A traditional evaluation not focused on planetary health could have identified some of the same issues, for example governance issues, the influence of lobbying and imbalanced power relations. However, the use of the Planetary Health Framework allowed for a systematic consideration of all the major determinants of planetary health. With respect to the holistic approach, no single planetary health dimension was given more importance than the others. Combining the use of questionnaires and focus groups made it possible to compare the groups' positions and explain the differences between them.

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14. Further Thoughts and Resources

Practical wisdom, along with theory and context, determine much of what we do in evaluations. (House, 2015, p. 131)

The evaluation field is moving fast these days, and this is good news! The status quo is not an option; we collectively need to change the foundations of our practices. Supporting a diversity of values and knowledge systems will contribute to transforming evaluation practices. Furthermore, reintroducing the contextual dimensions in all evaluation projects will make a significant difference. Interventions are completely intertwined with the many characteristics of the context, being shaped by them and impacting them. The context can no longer be ignored, controlled, or reduced to a topic of interest in a few evaluation questions.

Currently, many thinkers and practitioners from all over the world are getting together to foster the creation and implementation of transformative practices in evaluation. This is fantastic to witness! This book is part of this larger movement. I hope the model presented will provide you with practical guidance for supporting the necessary socio-ecological transition through your evaluation practice. I sincerely hope you will feel empowered to be part of this transformational movement.

In this book, the main dimensions that matter for all living species to thrive, according to existing scientific knowledge, have been introduced. We have examined what implementing planetary health lenses encompasses, and how considering the relationships between the context and the intervention informs each evaluation question. We have discussed different evaluation design avenues for meeting the specificities and requirements of each evaluation question, while considering planetary health dimensions in all we do.

What makes an evaluation project a good one is its fit with and adaptation to its own context, as well as the coherence between the evaluation components (questions, design, and methods). Getting to this balance requires creativity, sometimes combining approaches or evaluation questions, sometimes adding new components to create something new and unique. In this book we offer a kind of archetype for each evaluation question. You should feel free to adapt and transform these proposals to develop something new that would fit your own evaluation context. Methodology needs to dialogue with the evaluation context to meet its social, cultural, and environmental specificities, while also meeting the requirements of the commissioners.

Bringing planetary health lenses to the evaluation project will not necessarily be easy, it is likely to add new challenges. The evaluator will be exposed to higher levels of negotiation, resistance, and potentially skepticism. Until recently, evaluation has failed to consider the whole range of impacts and instead has adopted a narrow definition of the intervention. Adopting a holistic perspective in evaluation projects is a relatively new stance in the field. It will certainly attract some interest and some opposition. Keep in mind that adopting a holistic perspective in evaluation brings an added value to evaluation: Holistic approaches can help communities anticipate the range of impacts resulting from their projects and better prepare their people for the changing socio-environmental conditions we are increasingly experiencing. The current political, environmental, and social contexts call for deep

engagement with communities. One shouldn't shy away. Working in such complexity calls for creativity, strong facilitating skills, and practical wisdom.

Someone with practical wisdom not only knows the right thing to do but wants to do it. (Schwartz & Sharpe, 2006, p. 385)

Engaging in dialogues, trying to build bridges, emphasizing the value of relationships between humans and other living species and with elements is what gives worth and value to our work.

Practical wisdom consists of doing the right thing in the special circumstances of performing the job. [...] What do you do in difficult situations? The wisdom to address such questions is practical. It depends on your ability to perceive the situation, have the appropriate feelings about it, deliberate about what's appropriate in these circumstances, and finally, to act. Practical wisdom requires learned character traits like self-control and self-knowledge. It involves making choices among desirable outcomes that conflict with one another and choosing between the better and best possibilities. These choices require nuanced practical judgements appropriate to the time and circumstances. (House, 2015, p. 88)

As we have seen throughout this book, there is no single way to conduct an evaluation. Each evaluation project is largely influenced by circumstances, and the evaluator, at times, will be navigating in turbulent waters. It's quite likely that your project won't unfold exactly as planned. You may face surprises related to data access, participant recruitment, unexpected findings, ethical dilemmas, resistance, or even explicit barriers to implementation. While a well-crafted evaluation plan provides essential direction, it won't be sufficient on its own. To steer through the unexpected, evaluators must draw on practical wisdom (House, 2015; Hurteau & Williams, 2014). Patton once wrote: "Effective evaluators learn to adapt to changed conditions. This requires situational responsiveness and strategic, contingency thinking" (Patton, 1997, p. 118).

These changed conditions include shifting environmental and social conditions, as well as the dynamic context of disinformation and post-truth politics. To become agile professionals, evaluators need to adopt a holistic reading of the evaluand. Each phenomenon affecting the evaluand cannot be treated independently of others; rather, considering all dynamics and trends can make the evaluator's response adequate and appropriate for their practice context. No one can ever be fully prepared for the unexpected. In political contexts, for example, deliberate strategies may be made to obstruct the evaluation, such as restricting access to data, discrediting the evaluator, or limiting the dissemination of results.

The roles played by an evaluator in any given situation will depend on the evaluation's purpose, the unique constellation of conditions with which the evaluator is faced, and the evaluator's own personal knowledge, skills, style, values, and ethics. (Patton, 1997, p. 136)

In such turbulent conditions, staying focused on what matters most in the project can provide essential guidance for navigating difficult choices.

How do we enhance our practical wisdom? “Practical wisdom is acquired primarily from direct experience” (House, 2015, p. 131). It can also be developed by hearing others’ stories. Sharing with our peers is a learning activity in which we are exposed to other ideas, frameworks, and approaches and learn about the unexpected. Learning from others, we can get new ideas on how to engage. Each project is a learning journey for participants but also for the evaluator. The more we learn the more we develop situational agility for leading projects in a good way!

You are not alone on this journey. The field of evaluation continues to evolve, playing an important role in advancing truth and reconciliation, sustainable development, and greater equity. Many evaluators are embracing these new orientations and experimenting within their own projects. Communities of evaluators adopting planetary health principles are emerging across the globe. Each year, more resources and opportunities become available. Don’t hesitate to connect with other evaluators and build your own professional network. Take some time to explore the websites listed below, subscribe to their newsletters and consider becoming a member. Many of them offer valuable materials, including videos, briefs, and practical guides to support your learning and professional growth.

- International Evaluation Academy: <https://ieac.global>
- Blue Marble Evaluation: <https://bluemarbleeval.org>
- Better Evaluation Community: <https://www.betterevaluation.org>
- Footprint Evaluation: <https://footprintevaluation.org>
- EvalIndigenous: <https://www.evalindigenous.net>
- Indigenous Insights. An Evaluation Podcast: <https://indigenousinsights.podbean.com/page/3/>
- Eval4Action: <https://www.eval4action.org/walk-the-talk>
- Eval SDGs: <https://evalsdgs.org/about/>
- Eval for Earth: <https://www.evalforearth.org/about-us>
- Eval Partners: <https://evalpartners.org>
- International Organization for Cooperation in Evaluation: <https://ioce.net>

Evaluation associations are also good resources (this list is not exhaustive):

- The International Development Evaluation Association: <https://ideas-global.org>
- The Canadian Evaluation Society: <https://evaluationcanada.ca/about/index.html>
- The European Evaluation Society: <https://europeanevaluation.org/about-ees/>
- The African Evaluation Association: <https://afrea.org>
- The Asia-Pacific Evaluation Association: <https://asiapacificeval.org>
- The Australasian Evaluation Society:

<https://www.evaluation.bg/en/partner/australasian-evaluation-society>

- Le réseau francophone de l'évaluation: <https://www.rfevaluation.org/FIFE>
- The American Evaluation Association: <https://www.eval.org>

Many other resources, networks and associations exist! Explore those in your region or aligned with your areas of interest.

Together, by developing meaningful relationships with like-minded evaluators around the world, we can make a difference. Together, we can bring new thinking to how we structure our societies, shifting impacts from detrimental to regenerative, for a healthy planet for all!

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