Towards a new social contract of sustainable development for future generations

Final report

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Acknowledgements

Executive Summary

Environmental, social, health, and economic crises today have shown the shortcomings of traditional models of development and growth. As a response, the United Nations Secretary General Antonio Guterres, published the report "Our Common Agenda" in September 2021, a wakeup call to speed up the implementation of the Sustainable Development Goals. He asked countries to rethink their strategies and focus, among other areas, on re-embracing the values of global solidarity and trust; renewing the social contract between governments and their people and within societies; re-evaluating how we measure economic prosperity and progress; and analyzing our actions long-term based on the impact on future generations.

The UN SDG Lab, a forward-thinking organization that brings actors together and fosters collaborations to reach the seventeen Sustainable Development Goals, echoes this message through their work on what this new social contract might look like. This research project aims to contribute to that work by analyzing four **research questions**:

1. What are new frontier/peripheral concepts for sustainable development already identified by current international and national research and policies?
2. What will the future look like if/when such concepts are mainstreamed? What levers and contradictory forces should we anticipate that might affect (negatively or positively) the mainstreaming of the identified concepts?
3. What concrete actions can be adopted to streamline and implement these concepts in the future? What tools can be used to achieve this future?
4. Which actors should be engaged in the mainstreaming processes?

Research Method and Analysis

To answer the posed research questions this project followed a **values-based approach**. The basis for this approach was the "The Big Brainstorm", a survey conducted by the UN Foundation and the UN SDG Lab to young people from around the world. The survey pointed towards better understanding how youth envision the future, what they see as the biggest challenges and the potential solutions, among other questions related to sustainable development. Responses were analyzed and consolidated to four value-dimensions that captured young people's voices as the inheritors of tomorrow's world:

- **Healthy relationship with nature**
- **Solidarity and Humanity**
- **Equality and Equity**
- **Inclusivity and Diversity**

These four main values are the core structure of this research, guiding each phase of analysis.

Through a **literature review**, each of these value-dimensions was analyzed and described. The sources consulted belong to a variety of fields, which shows the multidisciplinary nature of this research. Furthermore, there was an explicit focus on bringing forward ideas and concepts from marginalized communities that are not usually represented in the global fora. This exercise led to identifying concepts at the marginal edges of sustainable development for each of the value-dimensions.

A **foresighting exercise** was the second stage of this exploratory project. In a facilitated workshop, the research team went through an envisioning exercise to conceptualize what the future would be like in 2050. With that base, the backcasting stage of the process took place. Four of the marginal concepts identified in the literature review were analyzed in terms of the levelers and contradictory forces that could affect the possibility of reaching a world where those concepts are embedded in society. These concepts were:

- Healthy relationship with nature: **Relational Ontology**
- Solidarity and Humanity: **Intergenerational Solidarity**
- Equality and Equity: **Wellbeing Economy**
- Inclusivity and Diversity: **Indigenous Epistemologies**

Technological, environmental, economic, political, legal and social elements were analyzed in the process.

Finally, **case studies** were developed for each of the marginal concepts identified. The goal was to select on-the-ground experiences of communities or countries that had been able to implement the concepts, identifying some of the levelers and contradictory forces that resulted from the foresighting exercise. Moreover, the case studies focused on contextualizing each mainstreaming process, identifying crucial stakeholders and tools used to achieve implementation. The case studies selected were:

- Healthy relationship with nature: Relational Ontology
  - **Relational governance of the Whanganui River in Aotearoa New Zealand**
- Solidarity and Humanity: Intergenerational Solidarity
  - **Affirming intergenerational solidarity through the Future Generations Act in Wales**
- Equality and Equity: Wellbeing Economy
  - **Wellbeing economy for equality and equity in Iceland**
- Inclusivity and Diversity: Indigenous Epistemologies
  - **Implementing the indigenous principle of "Buen Vivir" in Ecuador at the local and national levels**

Key Findings

Through the selected research methodologies, we were able to successfully address each research question:

What are new frontier/peripheral concepts for sustainable development already identified by current international and national research and policies?

The literature review illustrated that a number of frontier concepts for sustainable development have been designed and conceived. Specifically, we identified the following frontier concepts, with reference to four key values that reflect the future priorities of young people around the world:

Value	Frontier concept	Indicators and indices
Harmony with Nature	Relational ontology (Samantha Muller, Steve Hemming, and Daryle Rigney, 2019)	

	Regenerative development (Leah V. Gibbons, 2020)	● Regenerative development indicators (Leah V. Gibbons, 2020)
Solidarity and Humanity	Intergenerational Solidarity (Jamie McQuilkin, 2018)	● Intergenerational Solidarity Index (Jamie McQuilkin, 2018; included in "The Good Ancestor" by Roman Krznaric)
	Active empathy for life (Joaquin Lequia, 2021; used e.g. by Fundación ARBIO Peru)	
Equality and Equity	Purple economy (Ipek Ilkkaracan, 2009)	● Women, Business and the Law Index (World Bank Group, 2019) ● Gender Inequality Index (UNDP, 2010)
	Wellbeing economy (OECD, 2011 and WEGo, 2018)	● Wellbeing in education
		● Right to Education Index (an initiative of RESULTS Educational Fund, 2015)
		● Remote Learning Readiness Index (UNICEF, 2021)
		● Multidimensional Vulnerability Index (UN-OHRLLS, 2021)
Inclusivity and Diversity	Indigenous Epistemologies, used e.g by Ecuador in their Good Living Constitution and policies.	
	From presence to influence (Plan International UK. Asian Development Bank, 2018)	● Inclusiveness Index (Othering & Belonging Institute, Berkeley University, 2016) ● Youth Participation Index (Youth HUB Western Balkans and Turkey, 2021)

Table 1: Key frontier concepts identified through the literature review.

What will the future look like if/when such concepts are mainstreamed? What levers and contradictory forces should we anticipate that might affect (negatively or positively) the mainstreaming of the identified concepts?

By utilising a foresighting methodology we envisioned what the future could look like where frontier concepts had been mainstreamed. These futures are united by their imagination of a world where communities and society do not create debt, but preserve a sustainable and balanced world for future generations. In particular, the envisioned futures are strongly characterised by the types and quality of relationships - between communities, different generations of people, and the relationship with the environment. This is because the social nature of the frontier concepts requires a cultural and mindset shift in order for mainstreaming.

While we analysed the specific levers and contradictory forces for mainstreaming each of the frontier concept, there were a number of general trends identified across all four of them:

- Technology undoubtedly has high potential for mainstreaming, particularly given its ability to connect people and communities. However, we also acknowledge - and fear - the disruptions these new technologies could create in terms of regulation, the power of algorithms and the technological divide. This shows the double-edged sword that technology represents for the mainstreaming process.
- Today's current capitalist economic system was commonly identified as a contradictory force for mainstreaming frontier concepts. The current system encourages exploitation of natural resources and consumerism, and without a change in this system, it will be very difficult to generate further change to achieve for example intergenerational solidarity or relational ontology.
- Innovation is a core driver of the triggers needed for mainstreaming frontier concepts. This includes innovation relating to the law, policy, the environment and social norms.

What concrete actions can be adopted to streamline and implement these concepts in the future? What tools can be used to achieve this future?

Through the analysis of the selected case studies, we were able to identify some concrete actions that facilitated the implementation of these frontier ideas. At the national level, processes were usually initiated with **public consultations/referendums** to propel the mainstreaming process itself or to determine how these concepts translated to the specific needs and aspirations of each country.

When it comes to the main instruments used, two types stood out:

- **Social tools**, which included mobilization campaigns, national conversations and social media engagement, offering a unique opportunity to increase the participation of individuals from different sectors of the population and facilitating the spread of information about these new concepts.
- **Institutional and legal tools,** which comprised changes in **national legislations, including the Constitution** in some cases, and the **creation of institutions** in charge of the implementation, measurement, and enforceability of the new policies. This example illustrates that tools used within the established system can be repurposed to support frontier concepts of sustainable development, and how effective they can be, by creating binding obligations for the actors involved.

What this shows is that while the changes in mindset required to mainstream marginal concepts are innovative by nature, the tools that were used with that purpose remain the **traditional** ones.

Which actors should be engaged in the mainstreaming processes?

The case studies conducted also identified which were the key actors involved that allowed to mainstream the respective concepts. The combination of a **strong social movement**, with the opening of a window of opportunity by some **level of government** allowed to transform a social demand into public policy. Furthermore, effectiveness, in terms of a more accurate mainstreaming, increases when there is **collaboration of different stakeholders.** Gaining support from a variety of them, from different sectors, **at an early stage** can facilitate the implementation process later.

However, for further mainstreaming, it is necessary to include other actors. Firstly, **local communities have** to be engaged as they are at the centre of non-sustainable practices today. Secondly, to expand the adoption of any of these concepts, **transnational civil society** has to be involved. They have the means to connect communities around the world and centralise the response to shared challenges. Finally, there is a need to engage the **private sector** in a more comprehensive way, by influencing their incentive structure.

Finally, all four case studies reflect the **importance of people.** While institutions, governing bodies and other entities are relevant, individuals are the real agents of change, and their participation is vital in the mainstreaming process.

Final Considerations and Recommendations

While each stage of the research involved a distinctive activity or output, this research project has illuminated a number of further considerations for the future, and associated key recommendations:

Consideration 1: There continues to be an urgent and significant need for a new social contract, grounded by core values and frontier concepts of sustainable development.

All three key aspects of this project highlighted the shortcomings of the current efforts to achieve sustainability. Nonetheless, the range of potential values identified for a new social contract suggests that many traditional concepts of sustainability will continue to be important. In this context, frontier concepts not only replace, but can also complement the existing traditional sustainability agenda. On a similar thread, just because the focus is on frontier concepts, it does not mean that alternative or brand new tools are needed to mainstream them. Stakeholders should not be afraid to reformulate, utilise and repurpose traditional tools to support these new ideas.

Recommendations:

- **Continue refining and exploring what a new social contract should include, and the values that are at the core**. While this project has started a baseline for a new social contract, there is a need to further socialise and test the core values with young people and broader stakeholders across the world.

- **Explore the full application of traditional tools of sustainable development, and their potential to be used to mainstream frontier concepts.** The case studies illustrated that traditional tools such as the law do have the capacity to be used to support the implementation of frontier concepts, even if they had historically hindered innovative progress. It is important to not underestimate the potential of these tools in the mainstreaming of a new social contract.

Consideration 2: Frontier concepts are often centred around social dimensions of development that are qualitative and subjective by nature and therefore hard to quantify and measure.

Many of the traditional concepts that fall short do so because they overlook or miss key aspects due to an intense focus on being objective and measurable. All four key values highlighted in this project centre on interconnections and relationships, between both people, as well as the environment. However, these characteristics are also likely to make frontier concepts relating to these values more difficult to mainstream, as they are intrinsically built on social components that are by nature

qualitative rather than quantitative. The social nature of these values also points to cultural and mindset shifts that are required to mainstream frontier concepts.

Recommendations:

- **Explore whether there are innovative ways to consider subjective, interpersonal frontier concepts within the current system of traditional accountability**. In the short to medium term, it is unlikely that there would be a radical shift in the way that accountability is measured. Given this, it will be important to develop ways that frontier concepts can be recognised and given validity within this system.

- **Emphasise the importance of the socio-cultural shift that is at the foundation of mainstreaming frontier concepts.** Without that change in mindset it will be very difficult to generate change that effectively implements frontier concepts. Successful mainstreaming implies a change of culture. Greater emphasis on this aspect is important as cultural change is slow, and the greater the attention, the more likely such a change will be effective.

Consideration 3: Frontier concepts of sustainability are focused at the local, rather than the global.

Through our research we have found that frontier concepts are most commonly designed for the local level. Arguably this is in direct contrast to globalisation today, where concepts and ideas are mainstreamed through universalisation. In this context, the global application of some frontier concepts may also result in its dilution where they could lose their essence. Mainstreaming needs to protect and respect the nature of the frontier concept, and recognise that some frontier concepts are most relevant and effective at the local level.

Recommendations:

- **Explore how the SDG Lab can support a more 'glocal' focus on sustainable development**. The SDG Lab's unique positioning in the SDGs and UN ecosystem means it has an opportunity to lead the communication and translation of frontier concepts that address similar issues, but can be understood and implemented in different ways.
- **Identify further examples of how 'glocal' solutions are being applied in practice**. For example, there are a number of international agreements where a 'glocal' approach is already being embodied, such as the Convention on Biological Diversity's new targets that require all countries to achieve 30% protected areas by 2030. While every country is accountable to this target, what it looks like and means in practice is significantly different according to the context and needs of each country.

Introduction

Environmental, social, health, and economic crises today have shown the shortcomings of traditional models of development and growth. While the idea of sustainable development has sought to reverse this trajectory, the current agenda has struggled to trigger the change necessary to avoid these crises. This situation presents an opportunity to learn from the current crisis and to step up efforts for positive change by creating innovative, more inclusive, regenerative and equitable systems that do not compromise the wellbeing of future generations.

This research is part of the beginning of this journey, focusing on identifying and understanding alternative frontier indicators and peripheral concepts of development. These are concepts which are at the marginal edge, redefining the idea of long-term sustainability from an economic, social, environmental and technological point of view.

The project is guided by the following research questions:

1. What are new frontier/peripheral concepts for sustainable development already identified by current international and national research and policies in the areas of harmony with nature; solidarity & humanity; equality & equity; and inclusivity & diversity;
2. What will the future look like if/when such concepts are mainstreamed? What levers and contradictory forces should we anticipate that might affect (negatively or positively) the mainstreaming of the identified concepts?
3. What concrete actions can be adopted to streamline and implement these concepts in the future? What tools can be used to achieve this future?
4. Which actors should be engaged in the mainstreaming processes?

This report begins with an overview of the background and methodological approach taken, and is then structured around the four key research questions above:

- **The first chapter** of the report provides a summary of the literature review completed to answer the **first research question** - what are examples of frontier concepts of sustainable development that challenge the traditional agenda of sustainability. This chapter will also outline the frontier concepts identified and highlighted throughout the rest of this report.
- **The second chapter** describes the results of the foresight exercise which anticipates a future where frontier concepts have been mainstreamed, addressing the **second research question**. In particular, we use the backcasting tool to identify potential enablers and challenges that need to be addressed in mainstreaming four example frontier concepts: relational ontology; indigenous epistemology; wellbeing economies; and intergenerational solidarity.
- **The third chapter** details case studies, each relating to the four example concepts. These case studies describe situations in which the frontier concepts have been implemented, albeit in a one-off context. Through each case study we address **research questions three and four**, identifying the concrete actions and tools that were used to achieve successful implementation, the stakeholders involved, and provide reflections on how each concept could be further mainstreamed to other contexts.
- **The final chapter** compiles our key considerations on the role of frontier concepts in the ambition to achieve greater sustainability for future generations. We provide some practical recommendations on mainstreaming frontier concepts, and their potential for impact.

We hope that the research presented in this report begins to illuminate the areas and approaches that have the greatest potential to achieve the change that is urgently needed to ensure a sustainable and equitable future.

Background

In September 2021 the United Nations Secretary General Antonio Guterres, published the report "Our Common Agenda", a wakeup call to speed up the implementation of the Sustainable Development Goals.[1] The worsening impacts of climate change and socio-economic inequities today illustrate that our current approach to sustainable development has been insufficient.[2] Traditional approaches to development have been heavily focused on the idea of economic growth as a synonym of economic development, when, in fact, they have been defined as very different concepts. Economic growth focuses only on the increase of goods and services a country produces, which is traditionally measured through the gross domestic product (GDP) or gross national product (GNI) per capita. In contrast, economic development involves improvements in health, education and other aspects of human welfare; and while economic development needs growth, it is not a sufficient quality.[3]

After the coronavirus pandemic, UN Secretary General Antonio Guterres asked countries to rethink their strategies and focus, among other areas, on the following: re-embracing the values of global solidarity and trust; renewing the social contract between governments and their people and within societies; re-evaluating how we measure economic prosperity and progress; and analyzing our actions on the long-term based on the impact on future generations.[4] We need to move away from only relying on "traditional" measures of sustainable development such as GDP and GNI, which are currently mainstreamed by international institutions (World Bank, UN system, OECD etc) towards new frontier concepts that defy and complement the boundaries of sustainable development. The challenge is not only identifying these frontier concepts but understanding how they can be mainstreamed, where they hold central regard by international, national and local institutions as the way to achieve sustainability.

An important actor in the United Nations ecosystem is the SDG Lab, who has been working towards accelerating the achievement of the sustainable development goals. As a source of innovation and forward-thinking, the Lab aims to be an amplifier of new ideas of sustainability and act as a connector between different actors to foster multi stakeholder collaboration across the seventeen goals.

Part of the mandate of the SDG Lab is to build thought leadership and vision of the Next Sustainability beyond the 2030 deadline, on how as a humanity we can stop borrowing resources (material and immaterial) from future generations. One aspect of this is a new social contract, defined as "the understanding within a society of how people solve shared problems, manage risks and pool resources

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[1] 2021. "Our Common Agenda." *United Nations.* https://www.un.org/en/common-agenda

[2] Shivani Kaul et al., "Alternatives to Sustainable Development: What Can We Learn from the Pluriverse in Practice?," *Sustainability Science* 17, no. 4 (July 1, 2022): 1149–58, https://doi.org/10.1007/s11625-022-01210-2; Iman Ibrahim and Nadia Ahmed, "Investigating Regenerative Ideation within Sustainable Development Goals," *Sustainability* 14, no. 16 (January 2022): 10137, https://doi.org/10.3390/su141610137; Nina Eisenmenger et al., "The Sustainable Development Goals Prioritize Economic Growth over Sustainable Resource Use: A Critical Reflection on the SDGs from a Socio-Ecological Perspective," *Sustainability Science* 15, no. 4 (July 1, 2020): 1101–10, https://doi.org/10.1007/s11625-020-00813-x.

[3] Dwight H. Perkins et al., *Economics of Development*, 7. ed (New York: Norton, 2013).

[4] UN Secretary General. 2021. "Our Common Agenda."

to deliver public goods, as well as how their collective institutions and norms operate".[5] This project aims to support the SDG Lab's contribution to this new social contract.

Methodology

Research approach

Fundamentally, this project was driven by a values-based approach, drawn from the values identified by youth from around the world, in "The Big Brainstorm" survey, hosted by the United Nations Foundation and the UN SDG Lab. This survey was launched at the beginning of February 2023, and reached a total of 58 responses at the date of our initial analysis; responses that came from young people of almost every continent.[6] The questions included were designed by young change-makers, UN Foundation Next Generation Fellows, working under eight Action Groups focused on some of today's most pressing issues.[7] Some of them referred to how they envision the future, what are the challenges they see for their generation, the policies they think can better face those challenges and what should the priorities be.

As inheritors of our world, the views of young people should play a crucial role in any debate about sustainable development. Because of that, their responses were analyzed and consolidated into four value-dimensions that try to encompass their views. These dimensions were further validated with the partner to identify sub-values for each grouping.

Category	Healthy relationship with Nature	Solidarity & Humanity	Equality & Equity	Inclusivity & Diversity
Sub-values	Non-materialism	Unity	Wellbeing	Inclusion
	Climate	Peace	Equal access and development	Community
		Empathy	Reducing inequalities	Participation
		Respect	Sharing	
		Justice	Education	
		Tolerance		

Table 2: Values and sub-values identified from the Big Brainstorm Initiative led by the UN Foundation.

The value-dimensions identified from this survey continued guiding the following phases of the report, presenting a coherent structure in an attempt to fully apply the value-based approach to all the research. Following this methodology and setting values as the foundation of this report points towards the importance of putting in motion a mindset shift. It was understood that to achieve true sustainable development that mindset shift has to be the first step, to propel any further material changes. Moreover, values have the potential to ground any sustainable development project or

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[5] Ibid

[6] 05 April, 2023

[7] "Big Brainstorm," Our Future Agenda, accessed April 5, 2023, https://ourfutureagenda.org/bigbrainstorm/.

policy in incentives that do not radicate in profit or tangible benefit. In turn, a value-based approach consolidates what, in principle, should be of interest to all humans.

To inform these value-dimensions and answer the stated research questions this project used secondary sources from a variety of fields and sectors with the goal of bringing forward the voices of underrepresented communities. For example, the worldviews of Indigenous peoples offer a significantly untapped source of knowledge that has been traditionally marginalized in international fora. These approaches were of particular interest for this project. The sources consulted ranged from development literature, sociology, economics, to policy reports from government institutions, international organisations, and NGOs. There was an attempt to also look into other sciences, particularly in the area of nature and the environment, to look at the newest concepts and indicators. Furthermore, think tanks were particularly interesting sources of information, as they have an extended capacity for innovation and operationalization of concepts.

This project also sought to take an innovative approach, rather than reproducing traditional academic research. Notably this included utilising foresighting methodology to answer our second research question on the potential triggers and contradictory trends that could lead to the mainstreaming of the selected marginal edges. We developed this section of the report based on the guidance and results of a workshop that was facilitated by two foresighting experts from the UN Foundation. Both the UN SDG Lab team and the authors of this report participated in this exercise. Finally, to uncover the process of mainstreaming marginal concepts and the stakeholders involved (research questions 3 and 4), we utilised a case study methodology. Through secondary research, case studies were identified from places where the key frontier concepts had already been mainstreamed at the national or subnational level. Policy reports and academic literature guided the research for each of these cases to reach both case-specific and more general conclusions.

Research hypotheses

Before beginning this project, we developed a number of key hypotheses to guide our research approach in an effective and targeted way. The first is that identifying marginal concepts and indicators based on untapped sources of knowledge can help reframe development in a way that is truly sustainable, inclusive, and equitable. Secondly, we can expect to see that the marginality of the concepts and indicators is related to the lack of power, in terms of access and exercise, and lack of recognition of the originators of these concepts themselves. This lack of power is important to consider in relative terms, compared to other actors such as national governments or multinational companies.

Thirdly, we hypothesised that the marginality of some concepts, mainly those that are subjective or more holistic, is due to the fact that these concepts which cannot be objectively measured are also more difficult to operationalize and implement in the policy making process. This follows the argument presented by Jerry Muller in The Tyranny of the Metrics, where he discusses the belief that success can only be seen by quantifying human performance, publicising the results, and distributing rewards based on those numbers.[8] As a general trend, quantifiable measurements have dominated traditional conceptualizations of development and policy making. In this sense, we argue that because some of these marginal concepts move away from these traditional ideas and do not identify themselves

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[8] Jerry Z. Muller. The Tyranny of Metrics. First paperback edition. Princeton: Princeton University Press, 2019.

within the current frameworks, their lack of measurability is intentional, but at the same time a potential limitation for mainstreaming.

Project limitations

There are a number of important limitations to this project. First, the survey results used to identify the value dimensions cannot be taken as representative or unbiased as at the time of analysis the survey was still preliminary, and the process of data collection was still ongoing. Nevertheless, the results are used, and still appropriate for the purposes of sensing the youth perspective and are not assumed in any way to be exhaustive or exclusive. Secondly, no primary research was conducted for this project. This includes no interviews of the key stakeholders, institutions or communities relevant to the key frontier concepts identified or for case studies. . On one hand, this is due to the exploratory nature of the project and its focus on providing examples that can serve as guidance for future research or policy making. In other instances, the very nature of this project meant it was challenging to identify opportunities for primary research, as the focus is on marginal and frontier concepts which by definition are not well-known.

A final point to consider is the positionality of our research team. This project has engaged with many ideas and concepts that come from marginalized communities. In that sense, as researchers we reflected on the role we had to play in ensuring that we gave accurate recognition and representation to those communities by naming them, using their language, and amplifying their voice. In no way, this research seeks to be appropriative of those contributions and will continuously make clear the origin of each concept and idea.

Chapter 1: Literature review

The concept of sustainable development is well-established, and it was first formally defined in the Brundtland Report in 1987 as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".[9] These ideas were encapsulated in the 2030 Agenda for Sustainable Development, which provides a holistic blueprint for how we can achieve this "peace and prosperity, for people and the planet, now and into the future".[10]

However, the worsening impacts of climate change and socio-economic inequities today illustrate that our current approach to sustainable development has been insufficient and ineffective.[11] Traditional approaches to development have been heavily focused on the idea of economic growth as a synonym of economic development, when, in fact, they have been defined as very different concepts. Economic growth focuses only on the increase of goods and services a country produces, which is traditionally measured through the gross domestic product (GDP) or gross national product (GNI) per capita. In contrast, economic development involves improvements in health, education and other aspects of human welfare; and while economic development needs growth, it is not a sufficient quality.[12] This has been generally measured by the Human Development Index (HDI), created by the UN Development Programme.[13] Throughout this project, the GDP/GNI and the HDI will be understood as examples of "traditional" measurements of sustainable development, as they are mainstreamed by international institutions (World Bank, UN system, OECD etc) and applied by most countries around the globe.

Despite a movement away from traditional concepts and towards more holistic measurements, there is still a large prevalence of economic components and not enough focus on other elements of sustainable development. This critique is widely shared amongst academics, practitioners and civil society, alongside calls to adopt alternative and transformative approaches that will more effectively address the urgent issues we face today.[14] In this context our academic literature review canvassed the existing international and national research to identify frontier concepts of sustainable development. These are examples of concepts that push the boundaries and challenge the traditional agenda of sustainability, particularly captured by the SDGs.

The literature review was structured by four key values emphasised as a priority by youth around the world: Healthy relationship with nature, Solidarity & Humanity, Equality & Equity; and Diversity & Inclusion. Doing so allowed us to centre on the perspectives and values of young people for the future

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[9] World Commission on Environment and Development, "Our Common Future," 1987.

[10] "THE 17 GOALS | Sustainable Development," accessed April 1, 2023, https://sdgs.un.org/goals#history.

[11] Shivani Kaul et al., "Alternatives to Sustainable Development: What Can We Learn from the Pluriverse in Practice?," *Sustainability Science* 17, no. 4 (July 1, 2022): 1149–58, https://doi.org/10.1007/s11625-022-01210-2; Iman Ibrahim and Nadia Ahmed, "Investigating Regenerative Ideation within Sustainable Development Goals," *Sustainability* 14, no. 16 (January 2022): 10137, https://doi.org/10.3390/su141610137; Nina Eisenmenger et al., "The Sustainable Development Goals Prioritize Economic Growth over Sustainable Resource Use: A Critical Reflection on the SDGs from a Socio-Ecological Perspective," *Sustainability Science* 15, no. 4 (July 1, 2020): 1101–10, https://doi.org/10.1007/s11625-020-00813-x.

[12] Dwight H. Perkins et al., *Economics of Development*, 7. ed (New York: Norton, 2013).

[13] United Nations, "Human Development Index," *Human Development Reports* (United Nations), accessed April 24, 2023, https://hdr.undp.org/data-center/human-development-index.

[14] Kaul et al., "Alternatives to Sustainable Development."

in the way we analysed potential frontier concepts. Within each value category, we explored the following key concepts and indicators:

Value	Frontier concept	Indicators and indices
Harmony with Nature	Relational ontology (Samantha Muller, Steve Hemming, and Daryle Rigney, 2019)	
	Regenerative development (Leah V. Gibbons, 2020)	• Regenerative development indicators (Leah V. Gibbons, 2020)
Solidarity and Humanity	Intergenerational Solidarity (Jamie McQuilkin, 2018)	• Intergenerational Solidarity Index (Jamie McQuilkin, 2018; included in "The Good Ancestor" by Roman Krznaric)
	Active empathy for life (Joaquin Lequia, 2021; used e.g. by Fundación ARBIO Peru)	
Equality and Equity	Purple economy (Ipek Ilkkaracan, 2009)	• Women, Business and the Law Index (World Bank Group, 2019) • Gender Inequality Index (UNDP, 2010)
	Wellbeing economy (OECD, 2011 and WEGo, 2018)	• Wellbeing in education
		• Right to Education Index (an initiative of RESULTS Educational Fund, 2015) • Remote Learning Readiness Index (UNICEF, 2021)
		• Multidimensional Vulnerability Index (UN-OHRLLS, 2021)
Inclusivity and Diversity	Indigenous Epistemologies, used e.g by Ecuador in their Good Living Constitution and policies.	
	From presence to influence (Plan International UK. Asian Development Bank, 2018)	• Inclusiveness Index (Othering & Belonging Institute, Berkeley University, 2016) • Youth Participation Index (Youth HUB Western Balkans and Turkey, 2021)

Table 3: Key frontier concepts identified through the literature review.

There are a number of key conclusions that can be drawn across these emerging frontier concepts. First, the degree of marginality of some of the indicators we explored is likely to make mainstreaming challenging. Secondly, the critical need for many of these concepts and indices is around

empowerment and recognition, especially for indigenous communities. The mainstreaming tools we consider will need to focus on that. Further research into how these concepts and indicators are being applied in local contexts can help illustrate whether mainstreaming is possible and the enabling factors and tools that support this. However, the challenges relating to operationalisation of some concepts is a limitation for mainstreaming. The lack of tested indicators can limit wide-spread policy implementation, as there is no clear way of measuring and evaluating the impact of the respective policy change.

Most of all, across these frontier concepts emerges a unifying sentiment that we have driven humanity into a state of disharmony. This has led to the deterioration of nature; division instead of solidarity and humanity; entrenched inequality and inequity; and exclusion which is erasing the diversity of the world we live in today. The concepts considered in this review illustrate how re-finding harmony is important for achieving positive wellbeing outcomes for all.[15]

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[15] Tomas Chaigneau et al., "Reconciling Well-Being and Resilience for Sustainable Development," Nature Sustainability 5, no. 4 (April 2022): 287–93, https://doi.org/10.1038/s41893-021-00790-8.

Chapter 2: Foresight exercise

Introduction

The second part of this project aims to take an anticipatory approach to understanding the potential frontier concepts identified in the literature review. Specifically, we sought to understand what key triggers or contradictory forces might impact the concepts identified, and what the future could look like if these concepts are mainstreamed.

To achieve this, we utilised foresight as a methodology and set of tools, to anticipate, imagine, and outline a potential pathway for mainstreaming frontier concepts of sustainable development. Foresight tools are particularly useful as they facilitate critical thinking of the potential consequences of different decisions, and to develop innovative solutions. These tools consist of analysing trends, identifying potential opportunities and challenges, and envisioning possible, probable and preferred future scenarios.

We utilised backcasting as our main foresight tool. Backcasting involves "starting from a vision of a desirable future, then working backwards from the future to identify the steps to achieve it".[16] Doing so can be an effective way of critically thinking about how we can achieve a desired outcome, as it facilitates a consideration of the necessary steps required.[17] In our context, we utilized backcasting to identify the concrete actions that would either support or hinder the achievement of different frontier concepts of sustainable development, and ultimately lead to the mindset shift needed to establish a new social contract. These actions can be understood as the tools and incentives needed to move these concepts to the centre of the discussion, mainstreaming what used to be on the edges. This analysis was conducted for four key case study concepts, linked to the four value dimensions that have structured this project.

This foresight exercise was undertaken in a workshop facilitated by Felipe Bosch and Daouia Chalali from the Future Generation Action Group, with members of the SDG Lab team, as well as our core project team participating. Throughout the workshop we split into smaller groups to brainstorm, before reconvening to share and complement the levers and forces identified. In the workshop only two backcasting exercises were completed. To complete the foresight exercise, the project team used the learning from the workshop to complete the remaining backcasting exercises, and conduct analysis on the outcomes.

Backcasting results

Harmony with Nature: Relational ontology

A world governed by relational ontology is one where relations drive the way that humans situate themselves in the world, not only in terms of how they treat and understand nature, but also with land, fish, ancestors and each other. Through a relational ontology, nature is understood through a lens of what it contributes to, and requires in a relationship with humans. For example, the environment enhances the life of humans by providing food, shelter and protection. To reciprocate

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[16] Observatory of Public Sector Innovation, "Futures & Foresight."

[17] insight & foresight, "Backcasting - a Tool for Planning and Decision Making."

this, humans should ensure our actions equally care for and support the healthy functioning of ecosystems. Nature is valued from this relational perspective, such as the quality, or vibrancy of the relationship between the environment and humans, rather than a monetary or functional value. In this future there is a particularly prominent role for Indigenous peoples who have traditionally embodied a relational ontology.
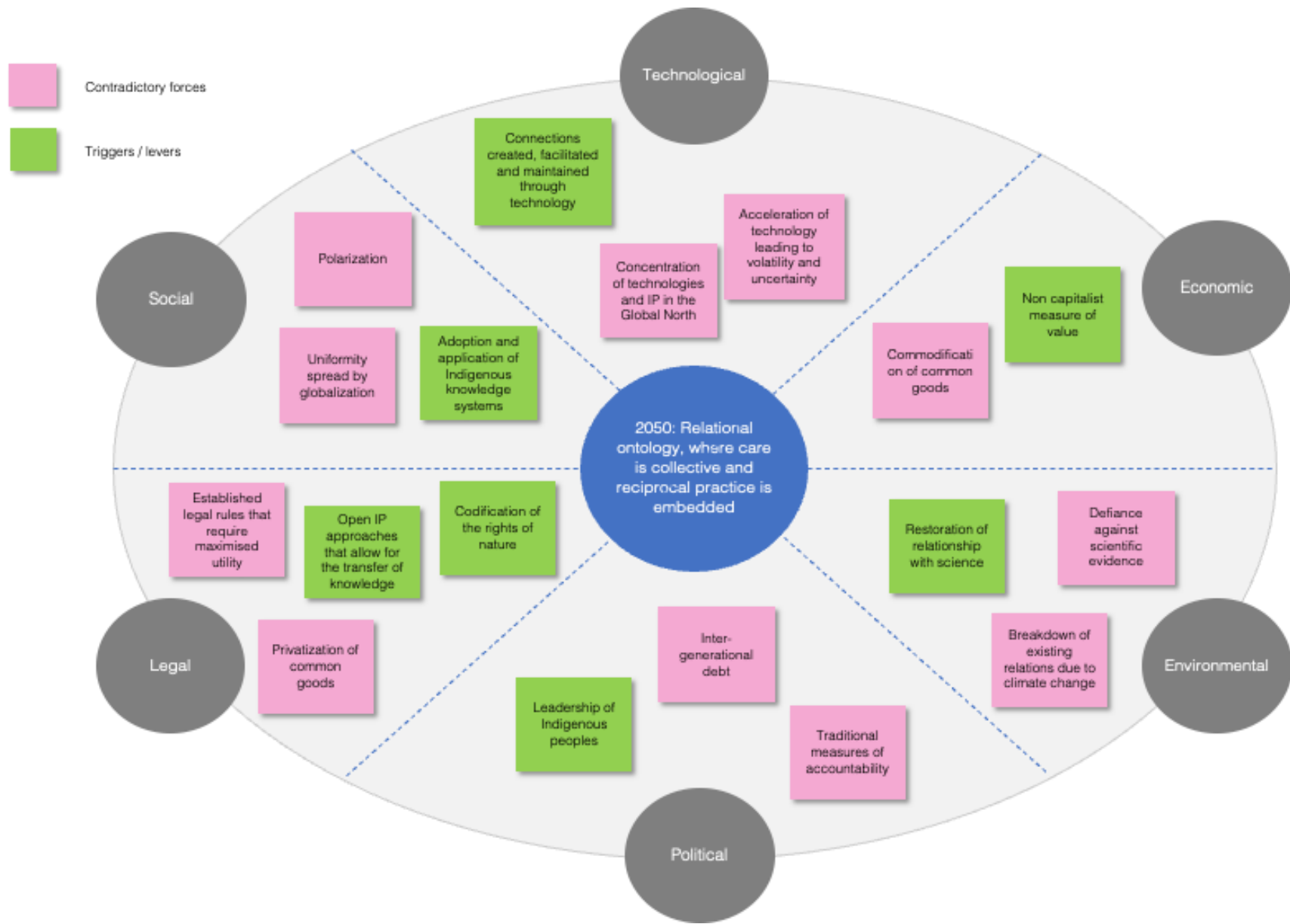
Figure 1: Backcasting map for relational ontology

<u>Triggers / levers:</u>

Technological:

- **Connections created, facilitated and maintained through technology:** Technology can play a significant role in relational ontology by creating and facilitating relations. For example technology can be used to document and share information that forms the foundations of relations between humans and different parts of nature. In this context technology can complement more traditional forms of knowledge sharing such as oral stories.

Economic

- **Non-capitalist measure of value:** A key aspect of relational ontology is recognising the value of nature with reference to the health of relationships. This is in contrast to an economic value of nature that is frequently adopted as part of a western conception of nature which allows it to be commodified through separation from humans.[18] Such economic conceptions of value have been widely criticised for reducing the complexity of nature to a set of numbers, and ignoring the non-functional or intrinsic characteristics that are not captured in economic valuation.[19]

Environmental

- **Restoration of relationship with science:** As with human-nature relations, relations between science and humans / nature are also important. For example, the process of creating scientific knowledge relies on relations to provide access and ensure success in research.[20] A relational approach ensures that the way that science is conducted, and the knowledge that is created best supports, and is in the interests of not only humans, but nature.

Political

- **Leadership of Indigenous peoples:** Indigenous peoples have practiced relational ontology for thousands of years.[21] Their experience in navigating relations is invaluable, and needed to ensure the right leadership can guide changes. .

Legal

- **Codification of the rights of nature:** In a relational ontology, nature is regarded as an equal, and active being that forms and interacts in relations of its own. In this sense, nature has a set of rights of its own that need to be recognised, protected and respected in order for it to partake in reciprocal relations with other parts of nature or humans. The legal codification is

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[18] Bunten, Alexis, Catherine Iorns, Justine Townsend, and Lindsay Borrows. "Rights for Nature: How Granting a River 'personhood' Could Help Protect It." The Conversation, June 3, 2021. http://theconversation.com/rights-for-nature-how-granting-a-river-personhood-could-help-protect-it-157117.

[19] Martino, Simone, and Jasper O. Kenter. "Economic Valuation of Wildlife Conservation." European Journal of Wildlife Research 69, no. 2 (April 2023): 32; Turnhout, Esther, Claire Waterton, Katja Neves, and Marleen Buizer. "Rethinking Biodiversity: From Goods and Services to 'Living with': Rethinking Biodiversity." Conservation Letters 6, no. 3 (June 2013): 154–61.

[20] Max Liboiron, Pollution Is Colonialism, Pollution Is Colonialism (Duke University Press, 2021), https://doi.org/10.1515/9781478021445.

[21] Bunten, Alexis, Catherine Iorns, Justine Townsend, and Lindsay Borrows. "Rights for Nature: How Granting a River 'personhood' Could Help Protect It." The Conversation, June 3, 2021.

one approach that ensures these rights of nature are given material and equal weighting in comparison to human interests and priorities.[22]

- **Open intellectual property approaches that allow for the transfer of knowledge:** The current intellectual property system arguably imposes a narrow proprietary system that encourages individual control and profit from the commodification and use of nature. Instead open systems of intellectual property are needed to enable the flow of information and relations which is key to a complex system of relational ontology.

Social

- **Adoption and application of Indigenous knowledge systems:** Many Indigenous knowledge systems are premised on relations, relating not only to nature, but also for families, schools, churches and other community groups. These systems illustrate how relational ontology is holistic and interconnected, and not only relevant or important for the sustainable protection of nature.[23]

Contradictory forces:

Technological:

- **Concentration of technologies and intellectual property in the Global North:** Access to technologies and key innovations can be critical for facilitating and protecting relational based worldviews. However, the current system has resulted in the concentration of these tools in the Global North.[24] Sharing technology and intellectual property is not only about access, but also about equal control and power to ensure these tools are used in a way that supports, and not hinders positive relations.
- **Acceleration of technology, leading to volatility and uncertainty:** The rapid acceleration of technology has had a disruptive effect on knowledge systems and the relations that underpin them. The way we produce, access and understand knowledge is being challenged, resulting in uncertainty for established relations such as how they are facilitated, and the trust that is at the foundation of these relationships.

Economic:

- **Commodification of common goods:** Most, if not all aspects of nature have been commodified in the belief that this will support their efficient, and therefore sustainable use. However, this approach reduces these parts of nature to 'goods' or inanimate objects, missing the deep relations that are critical to thriving ecosystems and nature.[25]

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[22] Alexis Bunten, Catherine Iorns, Justine Townsend, and Lindsay Borrows. "Rights for Nature: How Granting a River 'personhood' Could Help Protect It." The Conversation, June 3, 2021.

[23] Ibid.

[24] Riccardo Crescenzi, Simona Iammarino, Carolin Ioramashvili, Andrés Rodríguez-Pose and Michael Storper. "The Shifting Global Geography of Innovation." Development Matters, March 25, 2021. https://oecd-development-matters.org/2021/03/25/the-shifting-global-geography-of-innovation/.

[25] Sharachchandra Lele, Oliver Springate-Baginski, Roan Lakerveld, Debal Deb, and Prasad Dash. "Ecosystem Services: Origins, Contributions, Pitfalls, and Alternatives." Conservation and Society 11, no. 4 (2013): 343.

Environmental:

- **Defiance against scientific evidence:** Under our current system the human-science relation has been severely weakened by distrust in the scientific system.[26] Scientific information is treated with low integrity, hindering the development and growth of relational connections.
- **Breakdown of existing relations due to climate change:** The impacts of climate change have disrupted the natural environment and human communities, in some cases resulting in significant changes that breakdown relations between humans and nature. For example, natural disasters can result in the destruction of whole ecosystems, putting at risk the erasure of any relations that had previously existed.

Political:

- **Intergenerational debt:** Increasing intergenerational inequities threaten equity amongst those in relations, regardless of whether this is in human-nature or human-human relations. These inequities create differences that can further divide those in relations.
- **Traditional measures of accountability:** Objectives and goals are commonly used as a traditional measure of accountability. However, they embody the assumptions from today's worldview of a transactional and capitalist way of understanding the world.[27] They often promote actions and decisions that prioritise human desires, overlooking the potential benefits of a relational approach

Legal:

- **Privatisation of common goods:** Similar to the commodification of nature, many areas of nature have been privatised, for the exclusive use and control of particular groups. This prevents the full operation and development of relations. For example, the removal of land from Indigenous people has restricted their ability to connect and look after particular species, preventing the continuation of historic relations.[28]
- **Established legal rules that require maximised utility:** In many instances, the need to exploit maximised utility from nature is prescribed into legislation. This makes it impossible to make decisions based on a relational approach of understanding deeply what it is and what it needs.

Social:

- **Polarisation:** Increased extremism and polarisation makes it difficult to form relations not only between humans and nature, but also within human communities. It results in more prominent and conflicting differences that obscures any commonality that would bring people together.
- **Uniformity spread by globalisation:** On the other hand, in many areas globalisation has resulted in the spread of a uniform understanding and approach to the world, based on

[26] Antoinette Fage-Butler, Ledderer L, Nielsen KH. Public trust and mistrust of climate science: A meta-narrative review. Public Underst Sci. 2022 Oct;31(7):832-846.

[27] Bryan Teare. "The Problem with SMART Goals (and Why You Should Aim for Impossible)." Accessed July 3, 2023. https://bryanteare.com/smart-goals-impossible/.

[28] Alexis Bunten, Catherine Iorns, Justine Townsend, and Lindsay Borrows. "Rights for Nature: How Granting a River 'personhood' Could Help Protect It." The Conversation, June 3, 2021.

Westernised ideals.[29] This erases the diversity of different communities and the special and specific relations they hold with their environment.

Inclusivity and Diversity: Indigenous Epistemologies

To achieve a world in 2050 where indigenous epistemologies are embedded in our society means that space was opened to include different ways to build knowledge, particularly indigenous understandings of what sustainable development means.[30] These new ways of understanding development have favoured life in community and a collective view of wellbeing that understands that development is only achieved if the entire community sees the benefits of it. Participation channels have been increased and participatory models of democracy have been implemented to allow the diversity of opinion in decision-making. This type of model has achieved a more contextualized approach to development where solutions are designed within the community and for the community.[31] For example, if there is a flooding problem, members of the community are the ones who truly understand the problem they are experiencing and can identify solutions that not only can help solve the problem but also do it without further harming the community. To do that, the participatory mechanisms are key. Finally, this localized and contextualized approach has allowed for a diverse implementation of global metrics and the inclusion of subjective measurements of development that capture the values mainstreamed through indigenous epistemologies.[32]

[29] Countercurrents. "Is Globalization Leading To A Homogenized Global Culture?" Accessed July 3, 2023. https://countercurrents.org/2021/11/is-globalization-leading-to-a-homogenized-global-culture/.

[30] Johannes M Waldmüller, Mandy Yap, and Krushil Watene, "Remaking the Sustainable Development Goals: Relational Indigenous Epistemologies," *Policy and Society* 41, no. 4 (November 10, 2022): 471–85, https://doi.org/10.1093/polsoc/puac026.
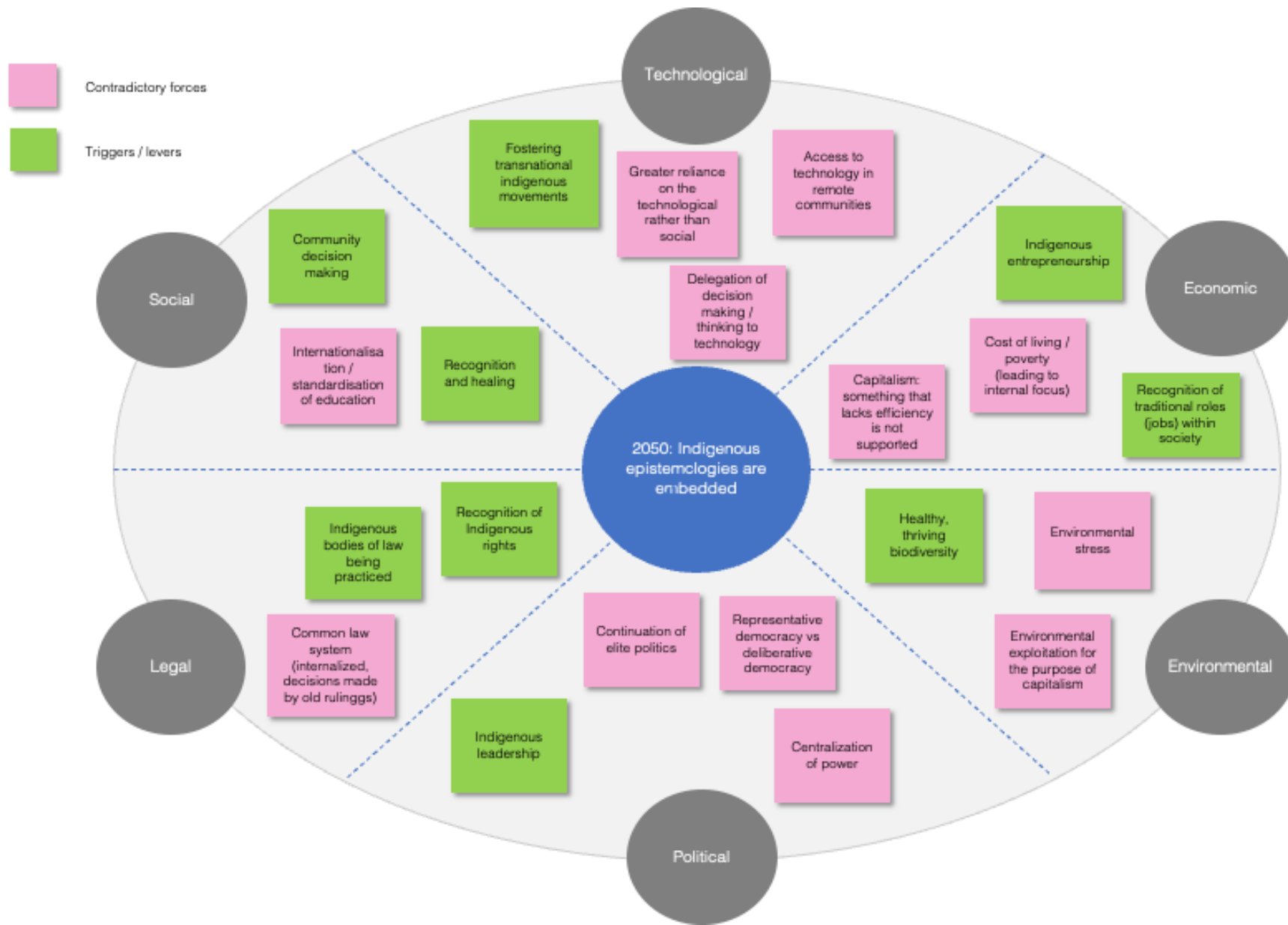
[31] Ibid

[32] Ibid

Figure 2: Backcasting map for indigenous epistemologies

Triggers/Levers:

Technological:

- **Fostering transnational indigenous movement:** the exchange of knowledge through social online networks[33] between communities in different countries will circulate mobilization strategies to mainstream the concept under discussion. Socialization of this information will bring communities closer and allow for a localization of policies and a globalization of the strategies at the same time. [34]

Economic:

- **Indigenous entrepreneurship**: Economic empowerment of indigenous communities is a step that needs to be taken to eliminate a stress factor that prevents them from participating in decision-making processes. Developing the entrepreneurial space for indigenous small businesses that can follow traditional or local ways of production would foster the sharing of culture and give them the economic means necessary.[35]
- **Recognition of traditional roles (jobs) within society**: by acknowledging and giving the monetary and societal recognition these roles deserve, we are also addressing the economic impediments to political participation. As safe-keepers of nature or roles within the indigenous legal systems, indigenous communities contribute to society in a meaningful way that are currently not being recognized for.[36]

Environmental:

- **Healthy, thriving biodiversity**: local economies and the community way of life depend on preserving a healthy and sustainable environment.[37] Achieving that will allow indigenous communities to have the resources they need for their subsistence and for their economic development, while reducing any source of stress in regards to the safeguarding of their land. This is related to the theory that establishes poverty and unsatisfied basic needs as a limitant for participation in decision making.[38]

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[33] Bhuva Narayan, "Social Media Use and Civil Society: From Everyday Information Behaviours to Clickable Solidarity," *Cosmopolitan Civil Societies: An Interdisciplinary Journal* 5 (November 27, 2013): 32, https://doi.org/10.5130/ccs.v5i3.3488.

[34] Richard Price, "Transnational Civil Society and Advocacy in World Politics," ed. Susan Burgerman et al., World Politics 55, no. 4 (2003): 579–606.

[35] Francesca Croce, "Contextualized Indigenous Entrepreneurial Models: A Systematic Review of Indigenous Entrepreneurship Literature," *Journal of Management & Organization* 23, no. 6 (November 2017): 886–906, https://doi.org/10.1017/jmo.2017.69.

[36] International Labour Organization, "Traditional Occupations of Indigenous and Tribal Peoples in Labour Statistics," Discussion paper (Geneva, 2022), https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/wcms_862144.pdf

[37] David Schlosberg and David Carruthers, "Indigenous Struggles, Environmental Justice, and Community Capabilities," Global Environmental Politics 10, no. 4 (November 1, 2010): 12–35, https://doi.org/10.1162/GLEP_a_00029.

[38] Anirudh Krishna, "Poverty and Democratic Participation Reconsidered: Evidence from the Local Level in India," Comparative Politics 38, no. 4 (2006): 439–58, https://doi.org/10.2307/20434011.

Political:

- **Indigenous leadership[39]:** To incorporate this concept and the principles of it into national policy making, or even at the local level, there has to be someone that pushes for that and that truly advocates for its implementation. In that sense, indigenous leadership both in civil society but most importantly in public office is key.

Legal:

- **Recognition of indigenous rights**: To have communities truly focused on increasing participation and bringing their ideas forward in the general policy making process, first they need to have their basic rights secured.[40] These are more generally related to land, resources and access to public services.[41] Without those needs satisfied first there cannot be an incorporation of indigenous epistemologies.
- **Indigenous bodies of law in practice**: a recognition of the legality that indigenous bodies of law have in addressing community injustices.[42] To incorporate indigenous epistemologies, indigenous legal structures have to be in practice as a local problem-solving mechanism that can be activated if any conflict arises in the design or implementation of a local development project.

Social:

- **Acknowledgment and healing**: Societies have to undergo a healing and recognition process of the effects that marginalization and inequality have had on some disenfranchised communities, as it is the case for indigenous people.[43] In this sense, there needs to be an acknowledgement of their suffering and marginalization so that empowerment can take place and participation can be increased.
- **Community decision making:** To implement indigenous epistemologies within policymaking, there has to already be a localized view of the development process where the ideas and knowledge of the community is already incorporated in decision-making processes.

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[39] Irmelin Gram-Hanssen, "Individual and Collective Leadership for Deliberate Transformations: Insights from Indigenous Leadership," *Leadership* 17, no. 5 (October 1, 2021): 519–41, https://doi.org/10.1177/1742715021996486.

[40] International Fund for Agriculture Development, "Partnering with Indigenous Peoples for the SDGs. Advancing Solutions by Working Together.," Policy brief (Rome, Italy: International Fund for Agricultural Development, October 2019), https://www.ifad.org/documents/38714170/41390728/policybrief_indigenous_sdg.pdf/e294b690-b26c-994c-550c-076d15190100.

[41] United Nations, "United Nations Declaration on the Rights of Indigenous Peoples," 2007, https://www.un.org/development/desa/indigenouspeoples/wp-content/uploads/sites/19/2018/11/UNDRIP_E_web.pdf.

[42] Val Napoleon and Hadley Friedland, "An Inside Job: Engaging with Indigenous Legal Traditions through Stories," *McGill Law Journal* 61, no. 4 (June 2016), https://lawjournal.mcgill.ca/article/an-inside-job-engaging-with-indigenous-legal-traditions-through-stories/.

[43] Adrienne Johnson and Alexii Sigona, "Planetary Justice and 'Healing' in the Anthropocene," Earth System Governance 11 (January 1, 2022): 100128, https://doi.org/10.1016/j.esg.2021.100128.

Contradictory forces:

Technological:

- **Delegating decision making to technology:** if policy decisions are left to be done by algorithms risks are inherent to the process as these intelligences are not unbiased.[44] Coded by a human with preconceptions and an identity of its own, it may be detrimental for any adoption processes of these policies that may not align with the biases of the programmer behind the algorithm.
- **Greater reliance on the technological rather than the social:** indigenous epistemologies, as a concept rooted in the nature of community, is at risk of marginalization when community is a sense that could slowly disappear. With the advancement of technology as a way of communicating and interacting through screens instead of promoting face-to-face discussions[45] implementing such a concept could be limited.
- **Access to technology in remote communities:** access to an internet connection and technological literacy are still barriers for marginalized communities who are in remote locations.[46] With the surge of digital spaces as fora for discussions and the inherent presence of technology in every aspect of policy making, that lack of access is a clear disadvantage to these communities that are the main proponents of the concept under analysis.

Economic:

- **Cost of living/poverty:** when basic necessities are not satisfied individuals become inward facing, and focus on their primary and individual needs for subsistence. Increasing inflation trends in many countries may force members of these communities to put all their attention on their unsatisfied needs instead of any political or community project.[47]
- **Capitalistic efficiency:** the capitalist nature of favouring efficiency over other values is detrimental to many indigenous ways of production and business models that are more inclusive and sustainable with community and environment, but that may take longer or use more resources. An example could be the touristic industry or the production of local handmade crafts. In this sense, investment in their local economy only comes from within the community itself and the state, minimizing any possible scaling up that could favour their earnings.

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[44] Anna Ackermann, "Are Decision-Making Algorithms Always Right, Fair and Reliable or NOT?," Liberties.eu, March 25, 2022, https://www.liberties.eu/en/stories/decision-making-algorithm/44109.

[45] Blake Lee-Whiting, "A Rise in Self-Service Technologies May Cause a Decline in Our Sense of Community," The Conversation, April 25, 2023, http://theconversation.com/a-rise-in-self-service-technologies-may-cause-a-decline-in-our-sense-of-community-201339.

[46] United Nations, "Indigenous Peoples and Connectivity: Bridging the Digital Divide," April 27, 2021, https://www.un.org/development/desa/dspd/2021/04/indigenous-peoples-digital-divide/.

[47] Anirudh Krishna, "Poverty and Democratic Participation Reconsidered: Evidence from the Local Level in India," Comparative Politics 38, no. 4 (2006): 439–58, https://doi.org/10.2307/20434011.

Environmental:

- **Environmental exploitation for the purpose of capitalism:** the advancement of agroindustries[48] and mining[49] on indigenous territories put these communities at risk of losing, first, access to a safe environment in which to live, and secondly potentially losing their land. In turn, this becomes a great source of environmental stress.
- **Environmental stress**: indigenous communities cannot focus on their participation in the policy-making process or in establishing communitarian logics when they are worried about if they are going to lose their home or their access to survival resources. If the degradation of the environment continues in the current trend, environmental stress[50] would increase, lowering any time and resource availability to engage in political decisions.

Political:

- **Continuation of elite politics:** perpetuating the same people and circles in power acts as an inhibitor of change, in this case preventing the adoption of any indigenous epistemological approach. Furthermore, it restricts access to indigenous leaders in decision making positions, the ones who can truly advocate for the adoption of these policies.
- **Representative vs deliberative democracy:** the established version of democracy in most societies is aligned with representative democracy. This trend could act as an impediment to fostering the deliberative democracy models proposed within indigenous epistemologies. Moreover, as to the adoption of such models, the process entails that its approval would have to go through this representative system. However, when a representative's role is in danger they could act in their self-interest to stop any approval of such changes in the law.
- **Centralization of power:** trends that continue to concentrate power at the national and at the executive level hinder any implementation of indigenous epistemology policies. The importance of community, participation and deliberation in this process is not possible when all decisions are taken at higher levels of governance.[51] The consequence could be an implementation only by name, and not in practice.

Legal:
- **Common Law System**: the structure of this law system enables the transmission and perpetuation of decisions taken years ago in old rulings decided by members of the legal

[48] Christian Levers et al., "Agricultural Expansion and the Ecological Marginalization of Forest-Dependent People," Proceedings of the National Academy of Sciences 118, no. 44 (November 2, 2021): e2100436118, https://doi.org/10.1073/pnas.2100436118.

[49] Nathan Andrews, "Land versus Livelihoods: Community Perspectives on Dispossession and Marginalization in Ghana's Mining Sector," Resources Policy, Special Issue on Mining Value Chains, Innovation and Learning, 58 (October 1, 2018): 240–49, https://doi.org/10.1016/j.resourpol.2018.05.011.

[50] James D. Ford et al., "The Resilience of Indigenous Peoples to Environmental Change," One Earth 2, no. 6 (June 19, 2020): 532–43, https://doi.org/10.1016/j.oneear.2020.05.014.

[51] Leonardo G Romeo, "Decentralizing for Development: The Developmental Potential of Local Autonomy and the Limits of Politics- Driven Decentralization Reforms," Working Paper (Swedish International Centre for Local Democracy, 2012).

system[52] who would represent certain portions of society and ideas. In this way, these rulings can continue affecting any attempt to incorporate the rights of indigenous communities or bring recognition to indigenous epistemologies as it may go against established legal decisions.

Social:

- **Internationalisation/standardisation of education**: awareness in future generations regarding indigenous epistemologies as a source of inclusion in policy-making can be interrupted if the process of universalizing education contents and practices continues expanding.[53] This trend could eliminate any incorporation of local knowledge production, and ancestral sources of knowledge, into schools curricula; or stablish standard ways of delivering that knowledge against more experiential mechanisms.

Equity and Equality: Wellbeing economies

A world where wellbeing economies have been embedded means that our society has changed the way it measures progress, not focusing on financial indicators only, but considering social and environmental wellbeing as equally important. For companies asking how to allocate financing, the main question would not be how much profit will be generated, but which projects have a higher social impact. Economies are designed taking into account the principles of circularity for manufacturing and resource use, with climate justice ensuring that the burden of mitigation and adaptation measures fall on those responsible.[54] Nations have decided to design policies that promote equity and equality, which means, from an individual's point of view, having access to a high-quality, affordable education, no matter if you go to public or private school, with curriculums designed in a holistic way, according to your individual needs, and putting emphasis on values like empathy and solidarity. After growing up, men and women have the same employment opportunities, equally rewarded and with a low ratio between highest and lowest paid. These jobs are meaningful and sufficient for everyone who wants them. Women do not need to put a stop on their careers after having a baby or feel disadvantaged to male co-workers, because social services are designed to support them during this time, with paid parental leave and affordable childcare. Daily life is also different, alimentation prioritizes plant-based diets, in-season, locally grown, cruelty-free products.[55] Houses have a sustainable design, and could be publicly or community owned. Individuals enjoy a sense of community and safety, they have an adequate work-life balance and young generations respect and value their elderly's experience. Citizens are not at risk of poverty, they have good economic prospects and feel represented in their political systems with agendas set by communities, not just consulted on the details.[56]

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[52] Uwe Kischel, "The Context of Common Law," in *Comparative Law*, ed. Uwe Kischel and Andrew Hammel (Oxford University Press, 2019), 0, https://doi.org/10.1093/oso/9780198791355.003.0005.

[53] Félix Angulo, "Standardization in Education, a Device of Neoliberalism," *Center for Educational Policy Studies Journal* 18 (October 6, 2020).

[54] Wellbeing Economy Alliance. "What Is a Wellbeing Economy." Accessed July 4, 2023. http://weall.org/what-is-wellbeing-economy.

[55] Ibid

[56] Ibid

Figure 3: Backcasting map for wellbeing economy

Triggers/Levers:

Technological:

- **Use of artificial intelligence (AI) and machine learning in the health and educational sectors:** These technologies could offer drastic improvements in the health and educational sectors. Newly developed systems powered by AI could create educational programs tailored to individual students[57] based on their learning skills and knowledge. These AI systems could potentially handle all the time-consuming tasks that education workers perform daily like administrative paperwork,[58] etc. freeing up their time to be used in more important and less monotonous activities.
- **Increase of reachability of information services provided by telecom technologies:** The advancement in telecommunication technologies could ensure that everyone on the planet has access to information and communication services that are currently unavailable in remote and rural areas.
- **Application of robotics in the biotechnology industry:** This emerging field, and the invention of more advanced and affordable mobility devices, could provide tremendous benefits to people with amputated limbs and disabilities, partially or fully restoring their impaired abilities back to normal.[59]

Economic:

- **Economic crises that trigger a reflection of the status quo:** Economic crises originated by natural or human-caused events could make countries reevaluate how their national budget is being spent, and if the right priorities are in place and align with the benefits of their citizens. The direct economic impact of these crises could force people to protest for a restructuring of their countries spending to better serve their needs.

Environmental:

- **Healthy environment is prioritized as a measure of wellbeing:** Nations would take into account the direct correlation between a healthy environment and the wellbeing of their citizens.[60] They could prioritize measures and campaigns aimed at reducing environmental pollution.

Political:

- **Grassroot movements:** Grassroot movements demanding economic and political reforms aimed at improving the wellbeing of their communities could escalate to a wider reach and

[57] Trusec Ai. "How AI Is Personalizing Education for Every Student." eLearning Industry, June 5, 2023. https://elearningindustry.com/how-ai-is-personalizing-education-for-every-student.

[58] CAPS 123. "How Artificial Intelligence Can Assist Teachers: Reducing Administrative Workload." CAPS 123, May 24, 2023. https://caps123.co.za/how-artificial-intelligence-can-assist-teachers-reducing-administrative-workload.

[59] Crawford, Mark. "Top 6 Robotic Applications in Medicine." ASME, September 14, 2016. https://www.asme.org/topics-resources/content/top-6-robotic-applications-in-medicine.

[60] Victor Quintanilla Sangueza. "Lessons on Protecting the Right to a Healthy Environment." Interamerican Association for Environmental Defense (AIDA), August 31, 2022. https://aida-americas.org/en/blog/lessons-on-protecting-the-right-to-a-healthy-environment.

turn into a popular call to action, putting more pressure on their leaders to prioritize their demands.

- **More representation/access to those with lived experiences:** Communities would work towards electing leaders who have had direct and extensive experience[61] in the field they are working on, instead of politicians. By having more representation of these leaders in all the different governmental branches, better measures would be applied to directly assist their communities.

Legal:

- **Regulatory flexibility / adaptability that supports wellbeing priorities:** Governments and agencies would evaluate existing laws and regulations, and could restructure them to focus on aspects that are more aligned with the principles of a wellbeing economy,[62] such as environmental laws, labor and social rights, etc.

Social:

- **People before profit**: More nations start prioritizing the wellbeing of their citizens instead of how much profit is generated by sale of products that does not necessarily correlate to a better quality of life for the people. We see more solidarity and cooperation between communities and governments, engaging in dialogue and working together on activities and initiatives that create momentum and popularity.
- **Public awareness through education and media campaigns:** Communities would work on increasing public awareness on the importance and benefits of prioritizing people's wellbeing over economic profitability. Education campaigns would help spread awareness of this concept in schools. Popular media platforms, including social media could be used to reach a wider and more diverse audience.
- **Support to companies that prioritize employee's wellbeing**: Governments and communities would show their support for companies and organizations that prioritize their employees' wellbeing[63] over maximizing profit, contributing to social campaigns and environmental goals. This would help expose the application and success of such approaches instead of the more traditional ones.

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[61] Emily Kubin, Curtis Puryear, Chelsea Schein, and Kurt Gray. "Personal Experiences Bridge Moral and Political Divides Better ... - PNAS." PNAS, January 25, 2021. https://www.pnas.org/doi/10.1073/pnas.2008389118.

[62] Karlheinz Knickel, Alexandra Almeida, Francesca Galli, Kerstin Hausegger-Nestelberger, Bryonny Goodwin-Hawkins, Mojca Hrabar, Daniel Keech, et al. "Transitioning towards a Sustainable Wellbeing Economy-Implications for Rural–Urban Relations." MDPI, May 11, 2021. https://www.mdpi.com/2073-445X/10/5/512.

[63] Liz Hilton Segel. "The Priority for Workplaces in the New Normal? Wellbeing." World Economic Forum, January 13, 2021. https://www.weforum.org/agenda/2021/01/priority-workplaces-new-normal-wellbeing.

Contradictory forces:

Technological:

- **Job market restructuring:** As a consequence of the rapid advances in technology, the job market could be largely restructured leaving a substantial number of people who currently work in fields such as industrial, customer service, etc. unemployed.[64]
- **Potential side effects with the increase of human-computer interactions:** The increase in human-computer interaction, as a replacement for human-human interaction, could also come with dangerous psychological side effects, particularly on children, if exposed to these technologies at early ages.

Economic:

- **Sole Prioritization of profit:** Nations with an emerging capitalist economy that choose to prioritize economic growth and profit over other measures that are closer to the wellbeing of their citizens.
- **Nations increasing their military spending:** A potential rise of global conflicts could force countries to increase their budget designated to the military industry [65] and have better defense in place, leaving less money to be used in other industries.

Environmental:

- **Environmental exploitation for the benefit of capitalism:** With the goal of increasing profit and sales, nations could increase the exploitation of nonrenewable natural resources,[66] contributing to the deforestation of areas and damaging wildlife and ecosystems.

Political:

- **Lobbying:** Large corporations usually seek to influence politicians to take actions that are predominantly beneficial to these corporations and not necessarily beneficial to the communities. In most cases, these lobbied activities end up negatively affecting these communities, since their demands are left unheard when the priority is based on who donated most to a political campaign.

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[64] Technology.org. "Artificial Intelligence and Unemployment: The Good & Bad - Technology Org." Technology.org, September 17, 2022. https://www.technology.org/2022/09/17/the-impact-of-artificial-intelligence-on-unemployment/.

[65] Lauren Chadwick "Global Military Spending Is Increasing." Center for Public Integrity, January 28, 2022. https://publicintegrity.org/national-security/global-military-spending-is-increasing/.

[66] The Economist. "Data Point: Ending Exploitation of Earth's Resources." The Economist, June 5, 2022. https://impact.economist.com/sustainability/ecosystems-resources/data-point-ending-exploitation-of-earths-resources.

Legal:

- **Legacy/historic accountability measures:** Corporations would continue to be legally protected [67] by legacy and outdated laws that prevent them from having to report any environmental and social damage that their operations cause.

Social:

- **Entrenched gender inequality:** Gender inequality continues to prevail in most nations. The lack of job opportunities for women based on gender stereotypes and the lower wages offered to them continues to have a direct negative impact on the economy.[68]
- **Unequal distribution of goods:** The inequality gap in the distribution of goods and services could continue to increase. The poor and middle class would be adversely affected, and as a direct consequence so their wellbeing, when the income distribution is so drastically different between these classes that represent the majority of our society, and the rich class.

Solidarity and Unity: Intergenerational Solidarity

A world where intergenerational solidarity has been embedded means that investments or sacrifices are made by current generations to increase or sustain the wellbeing of future generations. These could mean, for example, a restriction in traveling or in the consumption of certain products that have a large impact on the future. What is more, as the generations to come have no voice or influence in current policy-making decisions, their interests have been operationalized through current policies and representative bodies. Today's youth, as the generation closer to those that have not been born yet, would be taking place in those representative bodies to voice future generations' interests. Long-term thinking has been incorporated in policy planning guaranteeing intergenerational justice and equity. Using indices and indicators, such as the Intergenerational Solidarity Index, governments can measure the future impact their policies will have and adjust based on that. Intergenerational solidarity also meant that policies of care and labour have evolved to incorporate both the needs of the unborn, the youth and the elderly, to not compromise in the wellbeing of any of these groups

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[67] Daniel Mittler "How Do We Make Corporations More Accountable?" Greenpeace International, April 29, 2022. https://www.greenpeace.org/international/story/14185/how-do-we-make-corporations-more-accountable/.

[68] Kristalina Georgieva, Antoinette M. Sayeh, and Ratna Sahay. "How to Close Gender Gaps and Grow the Global Economy." IMF, September 8, 2022. https://www.imf.org/en/Blogs/Articles/2022/09/08/how-to-close-gender-gaps-and-grow-the-global-economy
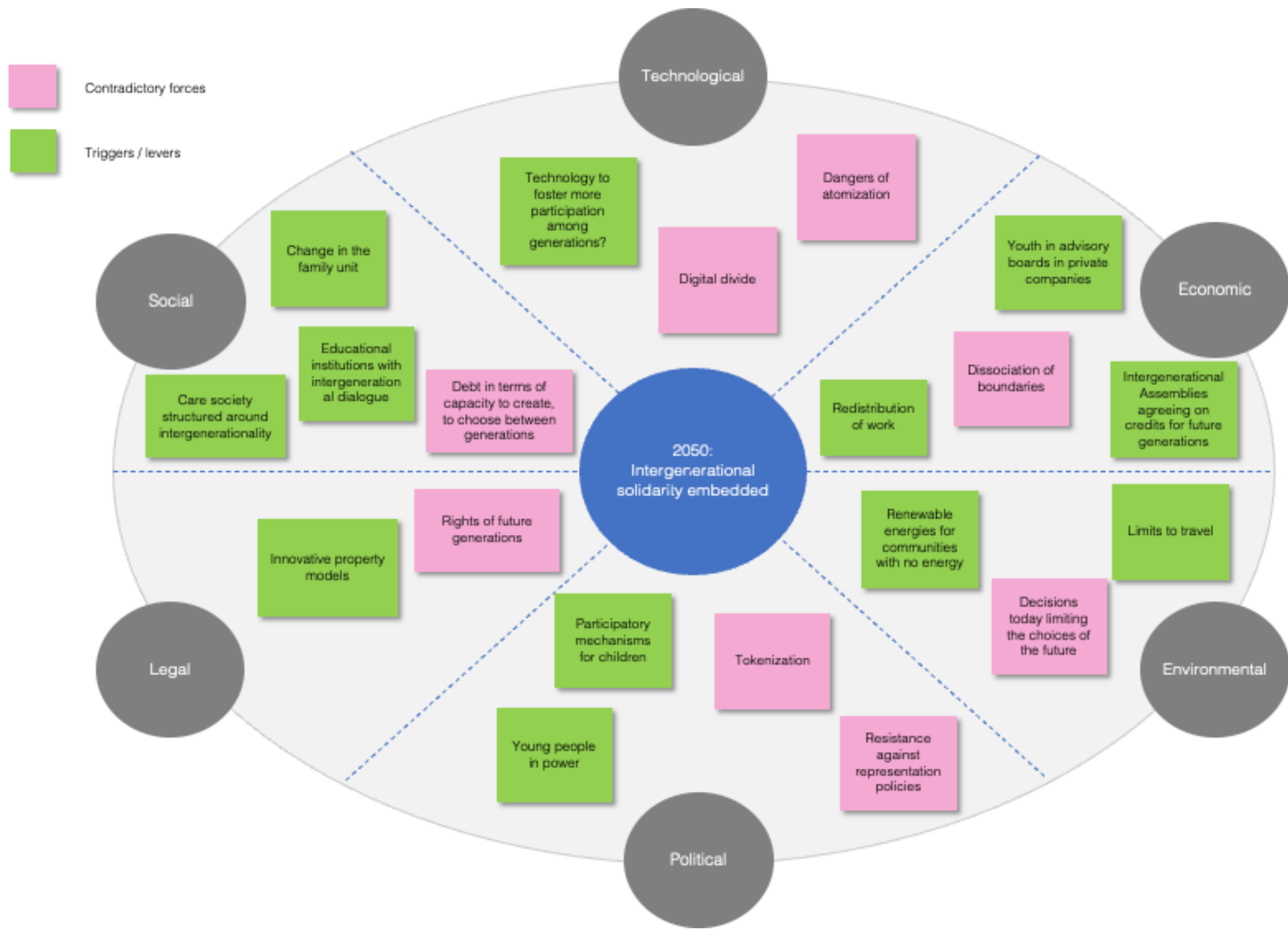
Figure 4: Backcasting map for intergenerational solidarity

Triggers/Levers:

Technology:

- **Intergenerational platforms of communication**: having digital spaces to foster communication among generations can encourage dialogue not only between the two groups locally, but also between groups transnationally.[69] This is relevant as the impact of environmental unsustainability has unequal effects in different parts of the world. Furthermore, the usage of these platforms may be more difficult for the elderly, allowing for educational situations of interaction where youth can teach the elderly in these systems.

Economic:

- **Participation of youth in boards of private companies:** Puting youth interests in the private sector will help influence business decisions that have an impact in future generations.[70] At the same time, their decisions might influence the hiring process of the companies, to increase youth employment, and strategic decisions in terms of their business operations to shift towards a more sustainable way of production.
- **Intergenerational Assemblies agreeing on credits for future generations:** to determine what is left for future generations, intergenerational bodies have to be established with debate procedures that involve both the young and elderly population to arrange what resources are saved for those yet to come. Such a space will allow both generations' interests to intersect, resulting in a decision that keeps current wellbeing levels and ensures future ones.
- **Redistribution of work during lifetime:** to ensure a healthier and sustainable pattern of care through lifetime a better distribution of periods of work may have to be achieved. Adulthood is a period in life where individuals have to take care of both their children and their parents, while handling a full-time job. Establishing a rebalancing of work periods to have individuals have less responsibilities at the same time can improve the care system and reinforce family dynamics where younger and older generations interact.

Environmental:

- **Renewable energies to eliminate energy poverty**: stepping up the energy transition for these communities without middle steps, jumping from no energy to clean energy[71]. This could allow next generations to already grow out of energy poverty and at the same time prevent natural resources depletion for the future generations. This transition will also increase education and health outcomes[72].
- **Limits to travel:** in order to decrease pollution and carbon emissions to leave a world for the next generations to live on, current generations, and particularly certain social groups, would

[69] Miriam González-Afonso et al., "Is Virtual Communication Possible in Intergenerational Programs? The SIMUL Project," Social Sciences 12, no. 4 (April 2023): 199, https://doi.org/10.3390/socsci12040199.

[70] Kiran Aziz, "This Is Why Boards of Directors Need Younger Members," World Economic Forum, December 19, 2018, https://www.weforum.org/agenda/2018/12/boards-of-directors-need-youngsters-millennials/.

[71] Sofia-Despoina Papadopoulou et al., "Addressing Energy Poverty through Transitioning to a Carbon-Free Environment," Sustainability 11, no. 9 (January 2019): 2634, https://doi.org/10.3390/su11092634.

[72] Ibid

limit travel by airplane and turn to other methods of transportation[73]. However, this trigger still presents the contradiction of why current people will make these sacrifices for future generations.

Political:

- **Young people in power:** first, lowering the age for running for public office. These would allow to foster representation of this population in decision-making bodies in an attempt to think about long term sustainability policies.[74] Secondly, establishing quotas for youth representatives would also facilitate the presence of younger voices in these decision-making spaces. Additionally, these changes would be particularly relevant at the community level where society is more in contact with policymaking and its outcomes. However, both of these policies rely on the fact that younger people today would not only advocate for a better future for themselves but also for future generations.
- **Creating participatory mechanisms for children:** while acting as representatives have limitations of its own, a trigger for intergenerational solidarity would be to incorporate children's views through certain participatory mechanisms. An option would be to incorporate voting systems for children.

Legal:

- **Innovative property models**: a move towards new legal frameworks to acquire property in a way that can create incentives for the owners and positive externalities for the future generations. Examples of these could refer to the purchase of certain plots of land for conservation purposes, with no penalization for not developing it in the sense of agriculture or construction. That property model would include incentives to the buyer to have benefit from that purchase even without making the land productive in the traditional sense, and also protecting the future generation's ecosystem.

Social:

- **Change in the family unit/dynamic:** a trend is moving forward in how families are constructed, or what is conceived as family. The nuclear composition of the household with mother, father and children is changing towards communal family units where different families, elderly people, groups of friends live under the same roof.[75] This way of living fosters community and interaction between younger and older generations, a variable that generates intergenerational understanding. Furthermore, there is a change in the decision of young couples to have children. More and more couples decide to not have children, sometimes

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[73] Jocelyn Timperley, "Should We Give up Flying for the Sake of the Climate?," BBC, February 19, 2020, sec. Smart Guide to Climate Change, https://www.bbc.com/future/article/20200218-climate-change-how-to-cut-your-carbon-emissions-when-flying

[74] Ben Horton et al., "Formal Representation for Young People Enhances Politics for All," Chatham House – International Affairs Think Tank, September 10, 2020, https://www.chathamhouse.org/2020/09/formal-representation-young-people-enhances-politics-all.

[75] James Tapper, "All under One Roof: The Rise and Rise of Multigenerational Life," The Observer, March 10, 2019, sec. Society, https://www.theguardian.com/society/2019/mar/10/rise-of-multigenerational-family-living.

related to environmental stress, economic concerns or a different life planning.[76] This will undoubtedly trigger population changes.

- **Education institutions with intergenerational dialogue:** a change from classes where lecturers are only experts from older generations to a model of education where students can also present and "teach" from their perspective. Such a model encourages intergenerational dialogue and gives value to young voices holding it in an equal ground as older people's.[77] Models of education that encourage collective intelligence and dialogue from an equal stance will foster a dynamic that will facilitate the mainstreaming of intergenerational solidarity policies.
- **A care society focused on intergenerationality**[78]: solidarity between the young and the old in the present time where youth can for example exchange their time for advice or other kinds of support from the elderly. This trigger recognizes that both elements are valuable to the other groups giving equal stand to their experiences and needs.

Contradictory forces:

Technology:

- **Dangers of automatization:** in the rise of algorithms as tools and "actors" in the decision-making process, those behind programming are crucial in implementing their own biases.[79] The identity of these people is relevant to understand that algorithms are not unbiased instruments but reflect their programmer's point of view. Generally, these tend to be white, young, men. This can have an impact on the decisions taken in terms of what is left and saved for future generations and how the current lifetime will change.
- **The digital divide:** as technology moves forward in all the spaces digital literacy differences between generations will affect how they can interact with the world and with each other.[80] That divide can continue with the current levels, or it can expand due to the increased advancement to more complex technologies. That change would have a real impact especially on the elderly and their wellbeing.

Economic:

- **Dissociation of boundaries:** any flexibility in work schedules, or in establishing periods of work and rest throughout people's lifetime risks eliminating or blurring the boundary between work

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[76] OECD, "Families Are Changing," in Doing Better for Families, by OECD (OECD, 2011), 17–53, https://doi.org/10.1787/9789264098732-3-en.

[77] EPALE Moderator, "OER: The Role of Intergenerational Learning in Adult Education," Text, December 28, 2020, https://epale.ec.europa.eu/en/blog/oer-role-intergenerational-learning-adult-education.

[78] Neda Norouzi and Jacqueline L. Angel, "Intergenerational Day Centers: A New Wave in Adult and Child Day Care," International Journal of Environmental Research and Public Health 20, no. 1 (January 1, 2023): 809, https://doi.org/10.3390/ijerph20010809.

[79] Anna Ackermann, "Are Decision-Making Algorithms Always Right, Fair and Reliable or NOT?," Liberties.eu, March 25, 2022, https://www.liberties.eu/en/stories/decision-making-algorithm/44109.

[80] Yuqiong Zhou, Tao He, and Feng Lin, "The Digital Divide Is Aging: An Intergenerational Investigation of Social Media Engagement in China," International Journal of Environmental Research and Public Health 19, no. 19 (October 10, 2022): 12965, https://doi.org/10.3390/ijerph191912965.

and personal life.[81] That can be detrimental for the present and future generation's mental health, and can impact their care capacity towards the elderly and the children.

Environmental:

- **Deciding on the resources that future generations should also imposes a restriction on their future**: if intergenerational solidarity is a concept that seeks to ensure that the youth and the unborn generations have a future where they can still enjoy a similar level of wellbeing to that of current generations, deciding what their level of consumption is going to be is limiting per se. Current policies that establish how much has to be saved in the present, inherently establish how much those in the future will consume, and that in itself entails making assumptions that can have large consequences.

Political:

- **Tokenization:** policies aimed at increasing representation run the risk of being tokenized, defeating the true purpose of the policy. A symbolic or performative effort, for example in the creation of quotas for the youth, could additionally serve as an obstacle for real change.[82] As the policy has already been implemented this may be used as a banner by more conservative groups to install the narrative that such inclusive policies are already in place and that further change serves no purpose in this regard.
- **Resistance against policies that increase representation**: as current trends have shown there is a strong backlash against policies to increase representation, such as positive action policies or voting legislation.[83] Resistance from conservative positions will be an obstacle in the process of mainstreaming the concept of intergenerational solidarity in practice.

Legal:

- **The rights of future generations:** in terms of legal proceedings, the defence of future generations' rights could bring up complications as for example who would be an advocate for those rights. And in that case, that advocate will never know what the needs of the future generations would be and the consequent rights that would be needed to protect those needs. [84]

Social:
- **Debt in terms of capacity to choose between generations:** availability of resources may create limits of safeguarding them for the future. Current needs may surpass expected levels

[81] Isabella Seeber and Johannes Erhardt, "Working from Home with Flexible and Permeable Boundaries," Business & Information Systems Engineering 65, no. 3 (June 1, 2023): 277–92, https://doi.org/10.1007/s12599-023-00801-2.

[82] Liisa Horelli, "Young People's Participation in Local Development: Lip Service or Serious Business?," in Youth, Citizenship and Empowerment (Routledge, 2001).

[83] Jim Rutenberg, Maggie Haberman, and Nick Corasaniti, "Why Republicans Are So Afraid of Vote-by-Mail," The New York Times, April 8, 2020, sec. U.S., https://www.nytimes.com/2020/04/08/us/politics/republicans-vote-by-mail.html.

[84] Wilfred Beckerman and Joanna Pasek, "The Rights of Future Generations," in Justice, Posterity, and the Environment, ed. Wilfred Beckerman and Joanna Pasek (Oxford University Press, 2001), 0, https://doi.org/10.1093/0199245088.003.0002.

forcing any "saving" measures to halt or not even start at all due to current scarcity. A situation such as this one could additionally create a situation of fear among the population in terms of securing resources for the future in a way that are unavailable in the present if an emergency occurs.

Conclusion and findings

Across the four backcasting exercises we completed, there are a number of general trends that stand out from the six areas analyzed. These trends contribute to identifying, or even anticipating, the different pathways that would have to emerge in order to mainstream the marginal concepts, while also illustrating what are some of the obstacles that could prevent that.

For technology there is a clear recognition of the potential it can have for mainstreaming each of the concepts in terms of social media, online representation or increased access to services. But there was also an acknowledgement - and some fear - of the disruptions these new technologies could create in terms of regulation, the power of algorithms and the technological divide. This shows the double-edged sword that technology represents for the mainstreaming process.

Furthermore, in terms of the environment, but also for the economic trends, for all four concepts participants identified that a change in the current capitalist way of production in terms of exploitation of natural resources and consumerism tendencies is crucial to help mainstreaming. Without that change in mindset and in economy it will be very difficult to generate further change to achieve for example intergenerational solidarity or relational ontology.

What was clear is that innovation, social and technological, will be needed for mainstreaming to be possible. By innovation, participants referred to elements in all areas:

- Legal: new regulatory and property frameworks
- Political: new participation mechanisms
- Environmental: nature-inspired innovation
- Technological: open-source tech and online community
- Social: access to services and in the conceptualization of self and family

The elements of innovation here identified can be seen as the key for the mainstreaming of marginal concepts. Innovations would have to both precede and succeed the needed mindset shift, in a way where a group of leaders would have to be the first to experience this mentality change in order to advocate for these innovations. In turn those would trigger a societal-wise mindset shift.

Utilising foresighting methodology highlighted to us how useful, and challenging it can be. Research has shown that humans tend to fall into patterns of short-term thinking. It is in our nature to focus on what happens and will happen during our lifespan, but not beyond that.[85] Consequently, foresighting challenges participants to place themselves in the future, and to think beyond the considerations that are tangible and more immediate. This is important so the exercises are able to lead to genuine ideas and results that reflect the interests of the future.

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[85] Richard Fisher, "Humanity Is Stuck in Short-Term Thinking. Here's How We Escape.," MIT Technology Review, October 21, 2020, https://www.technologyreview.com/2020/10/21/1009443/short-term-vs-long-term-thinking/.

Moreover, it was interesting to see how different participants had their own biases into looking at the future. Some had a more technological lens in envisioning 2050 and the triggers or contradictory sources that could affect the mainstreaming of the concepts. Others envisioned more community aspects taking place and influencing the mainstreaming process. That showed that identifying triggers or contradictory forces depends on what each participant was looking at, and that sometimes interventions could come from almost opposing views. The enriching aspect of the exercise was, in turn, trying to contemplate all those views and put them together to see how they interact and affect the mainstreaming of the marginal concepts.

Chapter 3: Case studies

Introduction

Findings from both the literature review and the foresighting exercise shed light on the difficulty of mainstreaming marginal concepts, which entail challenges and potential obstacles. Furthermore, findings also point to the complexity of tools and approaches for mainstreaming, in terms of their double edge nature to propel change but also to limitate it.

However, in practice there are communities that have taken charge in attempting to implement marginal concepts illustrating some of the elements identified in the foresighting exercise as keys or obstacles to prompt change.

In that spirit, we aim to select four case studies aligned with the four different value-dimensions conceptualized through the literature review. In that selection, the main criteria was the presence of some of those levelers and contradictory forces extracted from the foresighting exercise, to understand how they interact in the mainstreaming process with actors and context. This section would then serve as a consolidation of the literature review and the foresighting exercise with the goal of providing insights and recommendations that can be applied for further mainstreaming.

Value	Frontier concept	Case Study
Harmony with Nature	Relational ontology	Relational governance of the Whanganui River in Aotearoa New Zealand
Solidarity and Humanity	Intergenerational Solidarity	Affirming intergenerational solidarity through the Future Generations Act in Wales
Equality and Equity	Wellbeing Economy	Wellbeing economy for equality and equity in Iceland
Inclusivity and Diversity	Indigenous Epistemologies	Implementing the indigenous principle of "Buen Vivir" in Ecuador at the local and national levels

Table 4: Value-dimensions, frontier concept and corresponding case study.

The case studies follow a structure that first focuses on the key elements of the mainstreaming, the context and the resulting outcomes. Then they will take a closer look at the implementation by focusing on the process, the tools and the stakeholders involved. Finally, each case will try to conclude with the most important learnings from the mainstreaming process and the resulting recommendations for further mainstreaming.

These sections will allow us to gain a greater understanding of the key steps that lead to the application of the frontier concept to policies. The stakeholders mapping can shed light onto the roles of each key actor in the process and also in helping identify any missing stakeholders that could help mainstream the concept at a wider level of usage. Moreover, the tools each actor used will be categorized as: institutional, political, technological, social, economic and legal. With this framework,

we will be able to extrapolate the recommendations and learnings based on the tools that were more successful, and those that were not.

The final section will try to integrate the learnings from all four case studies to propose mainstreaming recommendations based on these concrete experiences. The aim of these recommendations will be to further the mainstreaming process so that the concepts can be used worldwide as new understandings of sustainable development and also serve as guidelines to apply in other marginal concepts that were not analyzed in these reports.

Relational governance of nature

Relational ontology to achieve harmony with nature

Relational governance of nature through rights of nature

The value
Harmony with nature recognises that fundamentally, it is **nature that facilitates human life,** and it is important to therefore have a **healthy relationship** with the Earth.

The concept
Humans are **situated in the world through relations,** not only with nature, but also with land, fish, our ancestors, and each other - relations are what connect everything.[1] A relational ontological approach holds that we can achieve harmony with nature, when we **shift towards an understanding of nature which recognises reciprocity of care** at its centre.[1]

The challenge
Relational ontology **challenges the traditional concept of conservation,** which **reduces the environment around us into an object** – a physical place that can, and is, separated from humans.[2,8] Through separation, humans are then able to control and therefore protect the 'wilderness'.[7]

Case study: relational governance of the Whanganui River in Aotearoa New Zealand
New Zealand provides an ambitious case study of how relational ontology has been applied in practice to dislodge traditional notions of conservation, and achieve better outcomes for the environment and local communities.

- Areas of the **natural environment in New Zealand have been granted legal personality.**[11] A key example is the Whanganui River, which is the longest navigable river in New Zealand, stretching for 290 km from Mount Tongariro to the Tasman Sea.[5] In 2017 the River was recognised as 'an **indivisible and living whole, comprising the Whanganui River from the mountains to the sea, incorporating all its physical and meta-physical elements**', in the Te Awa Tupua Act.[6,10]

- Granting rights to nature not only serves as a form of **environmental protection**, but entrenches the r**elational ontology held by the local Māori** (Indigenous peoples of New Zealand).[7,9] For Māori, **people and nature are entwined** in a reciprocal relationship – people are kaitiaki (guardians) of nature, and nature is kaitiaki of people. Granting legal personality recentres and empowers this relational, Māori worldview on human-nature relationships.[3,12]

- According to this relational ontology, the River has rights to which the Māori belong and not the other way around. In reflection of this, the Te Awa Tupua Act 2017 recognises the relations of the River:[5,9]

  - With the ecosystem: Ko te Awa te mātāpuna o te ora (The River is the **source of spiritual and physical sustenance**)

  - With the wider environment: E rere kau mai te Awa nui mai te Kahui Maunga ki Tangaroa (The great River **flows from the mountains to the sea**).

  - With the local iwi: Ko au te Awa, ko te Awa ko au (**I am the River and the River is me**), and

  - With the community: Ngā manga iti, ngā manga nui e honohono kau ana, ka tupu hei Awa Tupua (**The small and large streams that flow into one another and form one River**).

Recognising the rights of the Whanganui River also gave rise an **alternative approach to the governance of nature**, which is not premised on ownership, power or control.[13] Instead the river is represented as an equal in governance:

- The Te Awa Tupua Act establishes a **guardian,** called '**Te Pou Tupua', to be the human face of the river,** and to act and speak for and on behalf of Te Awa Tupua. Te Pou Tupua is comprised of two members, one nominated by the Crown, and another by the Whanganui River iwi (tribe), who is **responsible for representing and advocating for the interests of the River.** This includes upholding Tupua te Kawa (relevant intrinsic values representing the essence of the river), protecting River's health and wellbeing, and administering Te Korotete (the fund set up to support the river's health and wellbeing).[10]

Context
The Whanganui Iwi's guardianship and **special relationship with the River was broken** after **colonisation by the British** in the early 19th century.[3,8] Since then, the ownership, management, and use of the River has been in **political and legal dispute,** as the health of the River and ecosystem continued to degrade. This dispute was settled through the **Te Awa Tupua Act 2017**, which established legal personhood for the River, as well as including a formal acknowledgement and apology for past wrongs by the Crown.[4,5]

Key impact / outcomes
Recognition of the **relational characteristics** of the River, such as the **interconnections** the River has with community, and the surrounding ecosystem.

Representation of the **interests of the River as a legal person**, through a relational form of governance involving local Indigenous and non-Indigenous communities.[11]

Implementation

Process of development / implementation:[3,4,5]

- **1988**: The **Whanganui River Māori Trust Board was established** by statute to negotiate for the settlement of all outstanding Whanganui Iwi claims over the Whanganui River.
- **1990**: The Trust Board **lodged the Whanganui River claim with the Waitangi Tribunal** on behalf of all who affiliate to Whanganui Iwi.
- 13 October **2011**: Whanganui Iwi and the Crown signed a **record of understanding** which provided a framework for the settlement negotiations in relation to the Whanganui River claims of Whanganui Iwi.
- 30 August **2012**: Whanganui Iwi and the Crown **signed an agreement**, Tūtohu Whakatupua, which recorded the key elements of the agreed Te Awa Tupua framework for the Whanganui River.
- 26 March **2014**: Initialization of **Ruruku Whakatupua**
- 5 August **2014**: **Signing and ratification** of Ruruku Whakatupua by Whanganui Iwi members
- 20 March **2017**: **Assent of Te Awa Tupua (Whanganui River Claims Settlement) Act 2017**, the settlement legislation for the implementation of Ruruku Whakatupua.

Key tools used

Legal/Political

- Agreement of a **deed of settlement** in 2014, Ruruku Whakatupua, which provided the foundations for a new legal and governance framework to be established in order to recognised the rights and relational nature of the Whanganui River.
- Establishment of a new l**egal framework** (Te Pā Auroa nā Te Awa Tupua), through the Te Awa Tupua (Whanganui River Claims Settlement) Act 2017
- **Policy recognition** of the environmental benefits of a relational approach to caring for and ensuring the health of the environment

Institutional:

- Establishment of a **governance entity, Ngā Tāngata Tiaki o Whanganui** to implement relational decision making in practice

Social:

- Numerous **petitions and campaigns** to recognise the special relations held by the Whanganui River, and to shift away from the harmful colonial understanding and management of the River.

Stakeholder mapping and roles

Whanganui River Māori Trust Board

- Members at the time of agreement were: Dardanelle Metekingi-Mato; Julie Te Turi Ranginui; John Niko Maihi; Brendon Te Tiwha Puketapu; Te Kenehi Robert Mair[14]
- **Empowered by statute** to negotiate the settlement of the claims of Whanganui Iwi relating to the Whanganui River[5]

Hon Christopher Finlayson

- The **Minister for Treaty of Waitangi Negotiations**,
- **Represented the Crown** in high-level negotiations with Whanganui Iwi.[5]

Hon Simon William English

- The Minister of Finance,
- **Representing the financial interests** and commitments of the Crown[14]

The Office of Treaty Settlements

- Represented the Crown in day-to-day negotiations[5]

Other New Zealand government agencies

- Including the Ministry for the Environment, the Department of Conservation, Land Information New Zealand
- Providing policy support to the negotiations[5]

Key findings and recommendations

Key lessons learned

- **Traditional tools can be repurposed to support frontier concepts of sustainable development.** It is commonly considered that traditional tools such as the law can only be utilized to support traditional concepts. This case study illustrates how the legal system, which had historically been used to disposes and break relations for the Māori, was used to instead enable a relational ontology.

- **Stakeholders of conflicting positions need to be brought together to collaboratively develop and implement relational approaches.** The rights and relational governance of the Whanganui River required the agreement of representatives of the Crown, the Whanganui Iwi, as well as the broader community and other government agencies.

- **Application of a relational ontology needs to reflect the context of specific community needs.** For the Whanganui River, granting legal personhood and establishing a new governing body was appropriate, as it was an effective solution to addressing the long history of disagreement between the local Māori and the Crown.

- **The continued success of the Whanganui River case study can be attributed to the clear, and long-term establishment of structures and frameworks.** Implementation of the rights of the Whanganui River required the attentive, and considerable effort of a number of stakeholders over time. The legislation provided for this by setting out clear directions for governance structures, roles and responsibilities, collaborative engagement practices and details about impact on existing legislation and property/other interests.

Recommendations for mainstreaming

How this case study can be applied practically in other situations

- **Government and institutions** play a material **leadership role** in enabling a shift towards relational ontology. This is because they hold power in determining the particular worldviews that are formally adopted, and reinforced through policy and initiatives.

  - Strong leadership not only the use of legislation or policy, but can be reflected in other aspects such as financial contribution, the people involved and the amount of time that is invested.

- The **contextual nature of a relational ontology** means it is **best implemented in at the local level**, rather than at a national or international level. This is because relations are concentrated and are stronger amongst people and the environment in the local context, where direct connections can be formed and maintained.

- **Patience is key**, and it is as much **about the journey** of moving towards a relational ontology as it is the outcomes and resulting implementation. Shifting one's worldviews can be a complex and slow process, as it involves challenging the foundational values and ways of understanding the world. This process can be especially involved within institutions, where the culture and ways of working of whole organisations require changing.

Who are the key stakeholders that are missing / could be included in the future and why?

- **Non-Indigenous groups and communities:** In New Zealand, a relational approach to nature has primarily been implemented in the context of Indigenous rights and claims. However a relational ontology can be held and practiced by all members of the community,

- **Local government:** In many contexts and areas, local government can play the primary role of regulating environmental protection and activities. Adoption of a relational ontology at the local government level could lead to wider, and more significant impact on how communities relate and care for nature, day to day.

- **Environmental groups and organisations:** There is an opportunity to further solidify relations within a greater network of nature. Consideration should not only be given to the immediate ecosystem, but also to broader downstream and upstream ecosystems where critical interconnections can exist.

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The "Buen Vivir" principle in Ecuador

Implementing indigenous epistemologies at the national and local levels

Indigenous Epistemologies: "Buen Vivir" at the local and national levels

The value

As two sides of the same coin "**diversity is about counting heads; inclusion is about making heads count**".[8] inclusion is then seen as an action to welcome diversity by allowing groups and individuals to reach their full potential, but also to enhance overall success in better outcomes for sustainable development

The concept

Indigenous epistemologies are a source of ancestral knowledge that highlight aspects of **life in community, participation and collective wellbeing** in contextualized and **locally based** approaches to development.[7]

The challenge

This concept challenges the dominant Western concept of development in Ecuadorian policy, rooted in **individual wellbeing, centralized power, and an extractive economy**. Nationally, this was challenged through a rethinking of the central state now as a **redistributive agent**.[13] At the local level, a **communitarian model** was developed rooted in direct participation, transforming local politics to put the community at the center of policy making.[10]

Case study: Implementing the "Buen Vivir" principle in Ecuador at the local and national levels

- Originally from Andean Amazonian communities, Sumak Kawsay, translated as "buen vivir" in Spanish and "good living" in English, describes the idea of a multidimensional state of well-being conceived as **collective and rooted in community life**.[2] It revindicates aspects as communitarianism, participatory politics, social inclusion and redistribution.[2] The analysis will look at the implementation of the concept at the national level, its incorporation to the Ecuadorian national Constitution in 2008, and compare it to the implementation at the subnational level with the experiences of the communities

- The South American country of **Ecuador**, and locally in the communities of **Nabon and Cayambe**. Nabon is located in the southern province of Azuay, it has 18.000 inhabitants. Cayambe, in contrast, is close to the capital Quito and it's a larger country with 86.000 people.[10]

- The Ecuadorian case illustrate a mainstreaming process with **contrasting transitions between national and local levels**. Its value lies in how the **window of opportunity opened nationally was functional for local communities** for truly implementing the concept of Good Living.

Context

- The year 2006 found Ecuador in a profound **crisis of political representation**. Years of state deficiencies, rampant corruption and poor economic performance, made citizens lose trust in government and traditional parties.[15] Alianza PAIS, a **leftist coalition** led by Rafael Correa, entered the picture with a platform for a "renovated socialism" and what they denominated a "citizens revolution".[16] The appeal of an outsider resulted in Correa's and his party's victory.

- The Good Living concept has its origins in the indigenous and anti-neoliberal movements, which were most of the time one and the same.[1] The **Ecuadorian indigenous movement** has been central in every social claim and protest in the country. Mobilized by the "Confederation de las Nacionalidades Indígenas del Ecuador" (Confederation of Indigenous Nationalities of Ecuador), the movement gained strength in a context of profound **neoliberal reforms** to protect the rights of marginalized communities, in terms of land rights.[8] In 1996 the movement funded the Pachakutik as the political arm of the organization, opening the possibility to **partake in elections and control territory**. In this context, the Pachakutik won 30 local governments in 2000.[10]

Key impact / outcomes

- **Recognition to a movement** that historically fought for plurinationality, which promoted diversity and interculturality, as well as incorporated the rights of communities, peoples, and nationalities

- **Different way of measuring policy outcomes and well-being with subjective elements,** with new national statistics with two subsystems: social harmony in the communities and people's internal harmony.[11]

- At the local level, **communitarian practices** were implemented, like assembly-based forms of decision-making or participatory budgeting. This brought inclusivity and true plurinationality to local policy-making as a mechanism of political transformation.[4]

- It **boosted visibility for the concept** beyond national boundaries influencing the process in other Latin American countries and the rest of the world. **Policy diffusion** mechanisms put Good Living as an inspiration for local efforts in other countries.[14]

Implementation

Process of development / implementation

- In 2007 Correa's administration decided to call for an open **referendum to change the constitution**. The new administration knew that the current congress would not design a constitution in line with their intended reforms.[6] The referendum allowed citizens to choose new members for the Constitutional Convention, more aligned with the new political landscape.[6] The president also extended the number of assembly members, lowered the age requirements and changed voting rules. This favored the government's stand, contributing to their victory with 62% of the assembly.[6]

- In a record time the Montecristi Constitution was drafted and approved, after a discussion focused on the country's development model, democracy and declaring Ecuador a plurinational state.[6] The **indigenous movement was crucial during the constitutional debate**, maybe more than the role of the assembly members. The context of designing a new constitution opened the door for **public debate** as an opportunity for these groups to generate change.[3]

- At the subnational level, while some of the newly elected Páchakutik officials continued with the standard practice of previous administrations, others took it upon themselves to propel a **multidimensional transformation in their communities**.[10] While the process that led to the inclusion of the concept started long before the Montecristi Constitution, **local governments took advantage of the new legality and the policy space that it created**.[10]

Key tools used

Legal:

- **Constitutional change**

Institutional:

- **National decree** to change the conditions for the Constitutional Assembly

- **Elections** as an opening mechanism for political change

Political:

- **Policy transfer**:

  - From and to other Andean countries in the region. **Policy circulation** instead of transfer, due to its bidirectional nature.

  - From local knowledge to national policy: how indigenous community knowledge emerged to national policy making through **formal and informal exchanges**, in an institutional setting (Constitutional Convention, local elections) or in informal settings (protests, public debate).

- **Publicizing the debate**: the Correa administration made use of its communications tools to criticize opponents and disclose the Constitutional Convention debate. This allowed for the involvement of civil society that was not formally present in the deliberation.

Social:

- Powerful **mobilization campaigns and advocacy**, both in the streets but then also in the political sphere.

Stakeholder mapping and roles

Alianza País:

- Left wing coalition, new party. Enabler of change, disturbance (as it did not allow for the correct implementation of the concept)

President Rafael Correa:

- Left wing leader, outsider, his own political aspirations. Enabler of change, disturbance

Right wing parties:

- Governing Ecuador in the period before 2006, neo liberal tendencies. Traditional parties. Context creator, disturbance

Constitutional Assembly:

- Resulted from the national executive decree, selected by popular vote. Conduit for change

Indigenous movements:

- Mainly channeled through CONAIE, social force of protest, rooted in local indigenous knowledge. Source of knowledge, pressure force, informal introductions of change

Padrakutik:

- Electoral force derived from the CONAIE that distanced itself from the arm of the movement that joined Alianza País. Formal introduction of change both at the national level and at the local level with elected mayors from the party.

Key findings and recommendations

Key lessons learned

- **The incorporation of a holistic concept without clear paths on how to get there, can be easily interpreted in different ways.** Within the logic of the Ecuadorian national state the constitutionalisation of the Good Living was limited to an "alternative vision of development", instead of "an alternative to development" per se. An that is a **risk of mainstreaming concepts at a higher level than the local.**

- The importance of **combining an institutional window of opportunity and a strong and persistent social movement** that pushes ad advocates for the concept of Good Living. Both a strong **policy entrepreneurs[17]**, in this case the indigenous social movement, and its political branch, and an institutional space are necessary conditions. However, they are not sufficient by themselves, they have to happen together.

- **Participation in decision-making spaces from the advocates of the marginal concepts it is key to have a channel for agenda setting.** Without the electoral participation of indigenous leadership, implementation of Good Living would not have been possible.

Recommendations for mainstreaming

How this case study can be applied practically in other situations

- Concepts that originate in already marginalized groups in society have the possibility of mainstreaming when political participation is extended and increased for that group. Policy change, or in this case concept-mainstreaming, needs of **policy entrepreneurs** to advocate for that change within the institutions that will implement the concept**. Opening spaces of participation** as a precondition is key when implementing these types of concepts that foster inclusion and acceptance of diversity.

- With concepts that incorporate holistic or subjective elements, mainstreaming to a higher level of the local may not be the right path. If the goal is to have a true implementation and policies aligned with that concept, it may be better to **encourage a mainstreaming implemented and managed at the local level,** favouring decentralization of policy.

- Be cautious of mainstreaming processes when the **advocates of the concept are not those who have been fighting and advocating for its implementation** historically. There is danger of leaving the concept only at the superficial level, as a "value", to use in the political debate more than an actual guiding principle that is reflected in all policies.

- The usage of **conventional tools** (e.g. constitutional reform) is still valuable and can create unexpected opportunity windows. They are worthy to be considered when the goal is to produce mainstreaming at the national level. In the same line of traditional tools, protesting still proves to be an effective tool though a much slower time in terms of enacting change.

Who are the key stakeholders that are missing / could be included in the future and why?

- **Transnational indigenous movements**: articulating larger-scale advocacy strategies with indigenous communities from other countries within the region to push for mainstreaming at a larger level.

- Involvement of the **business sector** and the leaders of the largest economic activities: the unequal implementation of the concepts was very clear in the different areas of policy. By engaging the different economic sectors and incentivizing their active participation in the policy change the mainstreaming could be more comprehensive and the policies more aligned with the concepts.

- **Civil society organizations**: to expand the true implementation of the concepts to urban areas or larger cities where the proper communitarian logical is not so rooted. With awareness campaigns or community organizing by these NGOs the mainstreaming can overcome the limitation it had to only small communities.

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The Future Generations Act in Wales

Affirming intergenerational solidarity

Intergenerational Solidarity

The Value:

- Solidarity is understood as the cohesion of a particular community and the collective moral obligations that unifies the group. [10] In this sense, solidarity is considered as "the **unity of all humanity**", or the universal connection among all humans [10]

The concept

- Investments or sacrifices that are intended to increase or sustain the **wellbeing of future generations.**[8]

- By considering different kinds of capital – environmental, economic, and social – this concept aims to establish a link between current policies and the effects they will have in the future.

- Forces countries into **long-term thinking** in a way that guarantees intergenerational justice and equity.

The challenge

- Traditional thinking usually focuses on policies that favor short-term immediate returns without considering the implications these actions could have on future generations.

- Selfish attitudes that focus on our wellbeing now, no matter the cost.

Case Study [13, 14]

- In 2015, Wales adopted the **Well-being of Future Generations (Wales) Act** to improve the social, economic, environmental and cultural well-being of its citizens

- The Act gives a **legally-binding common purpose to 44 institutions** including the national government, local government, local health boards and other specified public bodies. It details the ways in which specified public bodies must work together to improve the well-being of Wales.

- The Act requires that these institutions focus their policies in **seven wellbeing goals:** a globally responsible, prosperous, resilient, healthier, more equal Wales with cohesive communities, and with a vibrant culture and thriving Welsh language

- To measure progress, a **national well-being framework** was developed including **46 indicators**

- There are five things that public bodies need to think about to show that they have applied the **sustainable development principle:** collaboration with others, integration with other goals, involvement of people with an interest in achieving the well-being goals, safeguard of long-term needs and prevention of problems occurring or getting worse

- **Accountability mechanisms** used: Future Generations Commissioner whose role is to act as a guardian for the interests of future generations in Wales and the Auditor General for Wales who may carry out examinations of the public bodies

- Each year public bodies must publish an **annual report** showing the progress they have made in meeting their objectives.

Context

- 'The **Wales We Want' Conversation** was set within the context of the United Nations' global Conversation of 'The World We Want'. [3] The country identified major intergenerational challenges related to climate change, poverty, ageing population, health inequalities and others which would require collaborative approaches and integrated solutions that translate at an individual and community level

Key Impacts / Outcomes

The Act is the **greatest cultural change program** the Welsh public sector has even gone through and the first piece of legislation in history to place the rights of future generations at the heart of Government . Some concrete actions taken as part of this new concept included:

- Cancellation of plans to build a 13-mile stretch of motorway which would run through environmentally sensitive wetlands [6]

- Announcement of a publicly owned renewable energy company in Wales that will assist with the transition to green energy, reduce reliance on global energy markets, and reduce the cost-of-living. [6]

- Launch of a Basic Income pilot for care-leavers, which could potentially open the doors to a universal basic income aimed to cut poverty levels.[6]

- Wales ranked 3rd in the world for recycling in 2021. The country also has a Climate Change Ministry and was the first parliament in the World to declare a Climate and Nature Emergency. [7]

- Purpose-driven curriculum at schools, a new framework, designed for well-rounded, innovative citizens that includes mental health education and eco-literacy, whilst encouraging young people to follow creative pursuits. [6]

Implementation

Process of development / implementation

- February 2014 – A **National Conversation** was launched asking people to discuss the Wales that they want to leave behind for their children and grandchildren, considering the challenges, aspirations and ways to solve long-term problems to create a Wales that they want by 2050

- 2015 – The Final Report was published showing that climate change was considered the single most critical issue facing future generations. Environment, employment, education and health were of most concern to the well- being of future generations

- April 2015 – The Future Generations Act was passed into law

Key tools used

Social:

- The National Conversation included 20 events, 3 launch events, helping to bring together 6474 individuals, who took part in over 100 conversations across Wales resulting in almost 1000 responses in the form or reports, videos, postcards, drawings and surveys. [4]

- Network of 150 "Future Champions" and influencers to represent different geographical areas and communities of interest

- Social media campaigns like #futurecymru to give visibility to the report
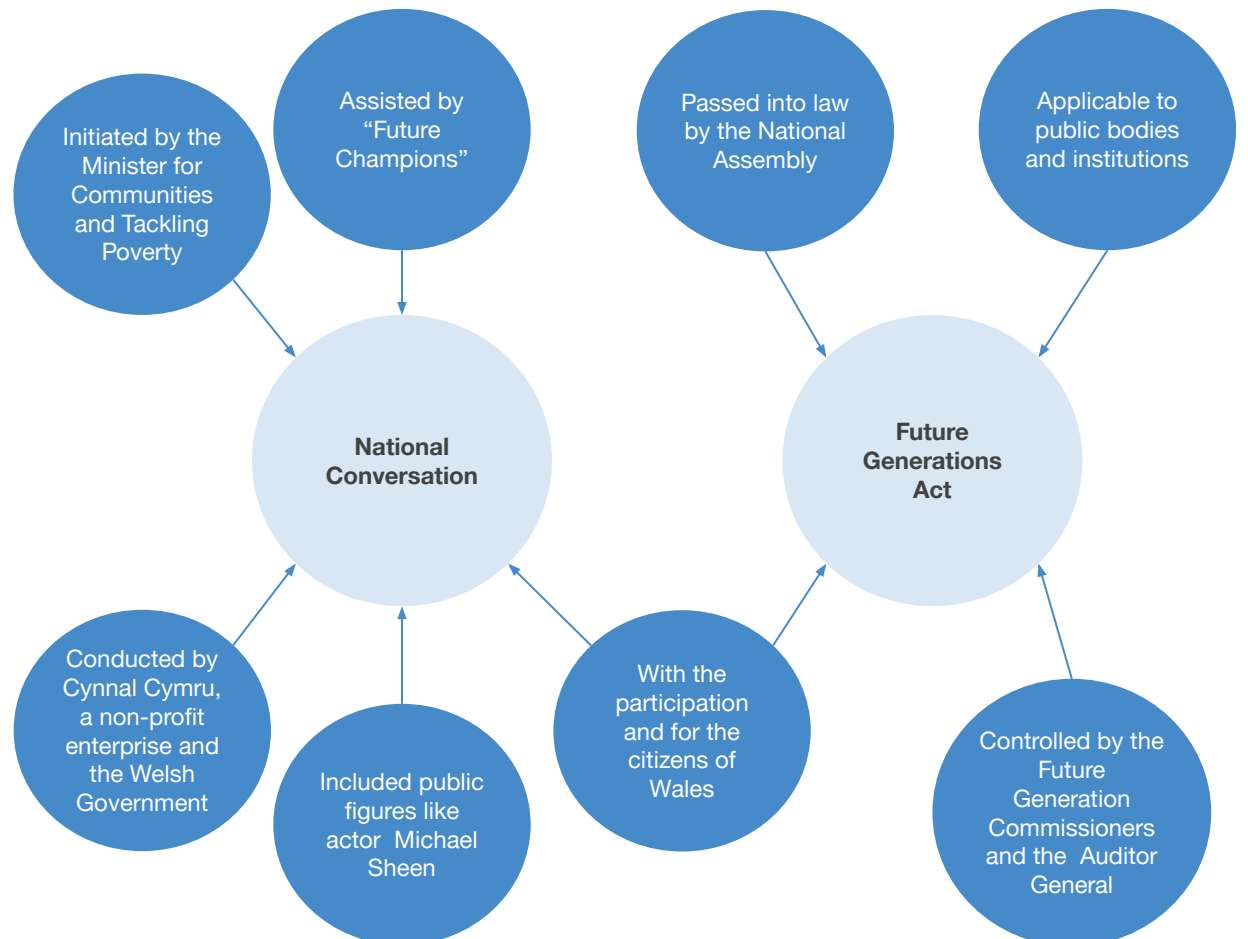
Legal:

- **National legislation** to pass the Future Generations Act

Institutional:

- Well-being budgets

- Horizon scanning exercises to think, plan and resource for the long-term future

Stakeholder mapping

Key findings and recommendations

Key lessons learned

- **The political environment at the international level can have a positive impact on national policies.** The Government of Wales used the invitation of public dialogue launched by the United Nations to think about how they wanted their future to look like. The movement had enough political and social support to make the country pass a law safeguarding the interests of future generations.

- **Collaboration between bodies and integration of goals is needed for effective changes.** Even when the adoption of the Future Generations Act was promoted by the government, public bodies reported how difficult it is to change to a long-term, integrated and collaborative form of measuring progress when the Welsh Government continued to hold leaders to account on short-term plans and short-term performance and financial measures. [12]

- There were some national well-being goals that were less understood and clarity was lacking on how public bodies were meeting them. This issue indicates h**ow important it is to clearly communicate definitions and expectations at all levels**. [12]

Recommendations for mainstreaming

How this case study can be applied practically in other situations?

- Thinking about our wellbeing without affecting the interest of future generations is a global need. Therefore, the concept of intergenerational solidarity have the p**otential to be applied to every context**. It would be recommended though that each country starts with a "**national conversation**", as Wales did, to identify which values their citizens would like to prioritize. A sustainable future could look very different for two nations.

- **The mainstreaming process is easier when it incorporates national legislation**. This tool creates binding obligations that are enforceable and allow to hold actors accountable

- Governments could use innovative tools like **social media campaigns** to increase popular engagement and **public figures** that could attract the interest of different sectors in the population, especially young people which sometimes feel disconnected from political processes

- **Bringing these new concepts into reality requires a change of culture.** Practical experience have shown how complex it is for people to change the way they usually do things. Great efforts need to be spent on motivating participants and explaining 'what' you decide to do and 'how' you decide to do it

Who are the key stakeholders that are missing / could be included in the future and why?

- In this case, the Act was binding for 44 public bodies and institutions only. It would be important to engage with the **private sector** too so business owners can analyze how their daily actions impact the environment and society

- A key stakeholder impossible to incorporate in the case but that are at the center of this concept are the **future generations.** We can not know for sure what would be their position or the elements that they would value the most, which could be very different that our priorities, but we can create organism like the Future Generations Commissioner whose role is to represent their interest as an viable alternative

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The Wellbeing Economy in Iceland

Ensuring equality and equity

Wellbeing economies

The value:

- **Equality** means each individual or group of people is given the same resources or opportunities. **Equity** recognizes that each person has different circumstances and allocates the exact resources and opportunities needed to reach an equal outcome

The concept

- A well-being economy recognizes that people need to restore a harmonious relationship between society and nature, enjoy a fair distribution of resources to address economic inequality, and live in healthy and resilient communities. [1]

- The concept challenges traditional approaches in three different ways: [6]

  - **Collective wellbeing** is the ultimate indicator of progress, whether or not that involves economic growth.

  - **Economy viewed as one aspect of society**, which is part of the environment.

  - **Meaningful democratic engagement** to identify and understand what matters for current and future collective wellbeing

The challenge

- Economic growth (as measured by GDP) is the ultimate indicator of progress, even when it comes at the detriment of human and ecological wellbeing.

- Economy viewed as separate and superior to social and ecological dimensions

- Strong economic assumptions regarding what people want and why

Case study

- In 2019 Iceland, one of the six countries member of WEGO (Wellbeing Governments), started measuring social progress based on indicators of wellbeing.

- Iceland introduced **a framework of 39 wellbeing indicators**, a balanced set of financial, social and environmental metrics which are considered equally significant measures of the country's success.

- The outcomes of the process are **six wellbeing priorities:** mental health, secure housing, better work-life balance, zero carbon emissions, innovation growth and better communication with the public, which will guide the country's Five Year Fiscal Strategic Plan.

Context

- The **2008 finance crisis** hit many countries around the world, but Iceland was one of the most affected since its financial sector accounted for 96% of the national GDP. In response, the country decided to take strong measures: they nationalized the biggest banks, prosecuted bankers as criminals, allowed the currency to depreciate rapidly and implemented debt forgiveness programs for its citizens**.** [3]

- This experience showed two important points:

  - The need for a new approach to economic governance

  - The decision to put citizens first even in times of crisis

Key impact / outcomes

- Iceland started the process to **move from a traditional welfare state towards a well-being economy,** rediscovering public purpose and reframing the roles and contributions of various actors – moving from redistribution to pre-distribution of power, wealth, time and income, and from welfare service delivery to co-created solutions.

- After the implementation of the wellbeing economy concept, there has been some clear impacts on the country's policies:

  - Parental leave benefits

  - Iceland remains the only economy to have closed more than 90% of its gender gap. [7]

  - After the covid-19 hit the world's economies, Iceland's well-designed policy measures and a solid health system eased the impact of the pandemic, allowing real GDP and employment to recover strongly. [4]

Implementation

Process of development / implementation

- Ireland's experience after the financial crisis encouraged the Government to **rewrite its constitution** based on a participatory process on people's values and priorities. The new draft emphasized the importance of government transparency, equality, welfare and the national ownership of natural resources. While **it did not pass through Parliament, its priorities informed many of Iceland's policy reforms and initiatives** since the crisis. Once of the first areas explored was gender equality, which was declared a primary economic goal. The Government instigated a gender mainstreaming and budgeting initiative, which allowed Iceland to lead the world in gender equality and to join WEGo in 2018.

- Following on from its experience with gender budgeting, the Government decided to explore more **holistic, multi-dimensional methods** for assessing and selecting policies to improve quality of life.

- As a first step, the Government conducted a **survey to determine the general public's top priority areas**, which found that health was the most significant factor in quality of life, followed by relationships, housing, and making a living.

- The process of developing and securing consensus on the wellbeing indicators spanned two years.

Key tools used

Social:

- **Public consultation** (survey) to define the values associated to wellbeing

- **"Crowd-sourcing" process** where nine hundred and fifty people were chosen by a lottery to discuss the core values, rights and responsibilities of the Icelandic government.

- **Campaign** for women's equality demanding government action to liberate women from social structures that have kept them down for centuries

Legal:

- Attempt to **rewrite the constitution,** which failed

Institutional

- **Legislative changes** for women's sexual and reproductive freedoms as well as robust equality laws and gender quotas for corporate boards.

- Policy planning (Five Year Fiscal Strategic Plan) was designed considering these **new indicators**

- **Gender and wellbeing budgets**

Stakeholder mapping

Government of Iceland

- Responsible for advancing the well-being economy agenda

- Includes figures like Prime Minister Katrín Jakobsdóttir, an advocate for policies of gender equality and Benedikt Arnasan, Director General for Policy Coordination and Economic Affairs

- The Council for Sustainable Iceland, a platform involving representatives of local governments, industry, businesses, labour unions, Parliament and nongovernmental organizations (NGOs), together with all government ministers

General public

- Participated in the values' mapping exercise

- Put pressure on the government to demand action

Political opposition

- Participated in the process of developing and securing consensus on the wellbeing indicators

Statistics Iceland:

- Agency in charge of collecting data to measure wellbeing indicators

Key stakeholders and recommendations

Key lessons learned

- **Advances is one area** (gender equality) **can spark interest on developing other concepts** (wellbeing economies).

- **Crisis can be a catalyst of social/economic change.** Pressing policy challenges related to the sustainability of society and the welfare state, the environment and the economy were the main drivers in Iceland's case. [8]

- **The election of women into key political and decision-making functions** and the attention they have brought to this agenda have accelerated the shift towards a well-being economy. [8]

- Lack of information on the environmental factors, and a lack of measurements directed at social capital and the work-life balance, made it difficult to choose indicators for prosperity and quality of life. This highlights t**he need for governments to support the systematic collection and dissemination of statistical data on environmental issues and social capital.** This includes increasing the frequency of measurements for indicators that have limited prior data, in order to assess trends. Finally, when comparing indicators, it is important to note that measurements for indicators are often done in different time periods. [6]

Recommendations for mainstreaming

How this case study can be applied practically in other situations [6]

- Wellbeing economies can not be automatically exported, they need to be **co-created with each community**. In this process, it would be useful to i**dentify trusted community institutions or leaders** who can facilitate discussions on wellbeing priorities.

- Initiating these changes with public consultations show that **employing backcasting exercises** and have communities/stakeholders imagine a society that has achieved their wellbeing goals have proved very successful to reimagine our future and engage these actors

- Implementers need to identify **intuitive indicators that can be easily understood** by a general audience. While designing them, we should evaluate whether they can be compared within countries to benchmark performance over time.

- It's important to count with the **government's support at early stages** to be able to instigate any necessary institutional reforms to better align agencies that may have conflicting mandates to priority wellbeing goals

Who are the key stakeholders that are missing / could be included in the future and why?

- Key stakeholders that need to be included to mainstream this concept are b**usinesses and the most conservative members of society.** Wellbeing economies challenge the idea that economic growth as the main indicator of progress. These two actors, generally adopt profit maximization positions. Since they have a big influence at the political level, we would need to gain their support to avoid constant confrontations at different stages of the implementation process

- As shown in this case, **measuring indicators over a period of time can prove difficult**. It is very important to have an **institution specifically in charge of this task**, like the Statistics Iceland agency

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Conclusion and findings

These case studies illustrate the leadership that already exists amongst communities and groups who are applying frontier concepts and are rethinking, every day, how they can contribute to a better society. The analysis of these case studies has shown that implementing marginal concepts at the local and national levels is not only possible, but necessary to accelerate the achievement of sustainable development.

In particular, the case studies highlighted the roles of stakeholders in driving the implementation of frontier concepts. The experiences of all four case studies shows that effectiveness increases when the **collaboration of different stakeholders** is secured e.g. public consultation in wellbeing economies including political opponents, businesses, non-governmental organizations in the conversation. Gaining support from different stakeholders, from different sectors **at early stages** can facilitate a successful and smooth implementation process later.

In terms of enacting policy change, the cases showed a combination of **strong social movement** e.g from indigenous movements or non-governmental organisations, with the opening of a **political window of opportunity by some level of government** that allowed to take a social demand into the policy-making field. This showed that these elements are both necessary but not sufficient conditions by themselves.

For pursuing future mainstreaming, though, it is necessary to include some missing actors to the conversation that can maybe push the adoption to the national level or even transnationally. Firstly, **local communities**, mainly urban, have to be engaged in any mainstreaming process as they are at the non-sustainable practices today. Secondly, though many of the cases show participation from local NGOs and civil society movements, to expand the adoption of any of these concepts **transnational civil society** has to be involved. They are the actors that would be able to connect communities around the world that are having the same struggles and centralise the response to shared challenges. Finally, there is still a need to engage the **private sector** in a more comprehensive way, by attempting to influence their incentive structure that focuses not only in monetary but also in social profit.

This leads to the next conclusion, which recognises **transnationality as a powerful source of innovation and inspiration** as shown by the changes sparked by the United Nations calls for action (e.g. The World We Want followed by the Wales We Want movement). Countries may also follow the steps of other nations that have implemented changes themselves (e.g. Good Living in Ecuador and Bolivia) or create partnerships to collaborate together and share successful experiences (e.g. WEGo Alliance). In this context, the implementation of frontier concepts, regardless of how big or small the scale, contributes to the overall aim of mainstreaming.

The case studies also illustrated that while financial, political and social **crises** can be destabilizing, they can also be a trigger for institutional transformation. Crises force us to reflect on the current status quo and are a unique opportunity to rethink how we are doing things and look for alternatives. For example, the crises of serious environmental degradation of the Whanganui River, as well as hundreds of years of political conflict forced the community and New Zealand Government to adopt an alternative frontier approach and implement an innovative solution to the issue.

Furthermore, through this analysis, we were able to identify some concrete actions that facilitated the implementation of marginal concepts. At the national level, processes were usually initiated with **public consultations/referendums** to propel the mainstreaming process itself or to determine how

these concepts better translated to the specific needs and aspirations of each country. This shows the involvement of society in contextualizing a concept to the realities of their community.

When it comes to the main instruments used, two types stood out:

- **Social tools**, which included **mobilization campaigns, national conversations, public debate and social media engagement**. This offered a channel to increase civic participation from different sectors of the population and facilitated the spread of information about these new concepts.
- **Institutional and legal tools,** which comprised changes in **national legislations,** sometimes including **reforms in national Constitution**s, and the **creation of institutions** in charge of the implementation, measurement, and enforceability of the new policies. This example illustrates that tools framed within the established system can be repurposed to support frontier concepts of sustainable development, and how effective they can be, by creating binding obligations for the actors involved.

These two types of tools show that while a change in mindset is an innovative process by nature, the tools that were used for that purpose are still **traditional** ones. Both mobilization campaigns and changes in national legislation or the creation of new institutions, are tools that have been historically used to enact change; and they still hold that potential for mainstreaming frontier concepts.

Finally, all four case studies reflect **the central importance of people**. Mainstreaming is driven by people, and it is not about institutions and their policies or their activities, not about governance bodies and their decisions and not about the market. Individuals are the agents of change, and their participation is vital in the mainstreaming process.

Chapter 4: Key findings and recommendations

The core aspects of research undertaken as part of this project, illustrate a number of key findings and recommendations.

Finding 1: There continues to be an urgent and significant need for a new social contract, grounded by core values and frontier concepts of sustainable development.

All three key aspects of this project highlighted the shortcomings of the current efforts to achieve sustainability. While this project was structured around four key values (harmony with nature; diversity and inclusion; solidarity and humanity; and equality and equity), the Big Brainstorm survey highlighted a number of potential values in which our aspirations for sustainability are not being met. The literature review explored potential frontier concepts that may bring us closer to the values we aspire to by either replacing or complementing the existing traditional agenda of sustainability. These potential values of a new social contract were explored further in the foresighting methodology, where we envisioned in more detail how different a future could look like if frontier concepts were mainstreamed. Finally, the case studies illustrated the efforts that have already been established, to shift away from traditional measures and concepts of sustainable development.

Importantly, the range of the potential values identified for a new social contract suggests that many traditional concepts of sustainability will continue to be important. In this context, frontier concepts not only replace, but can also complement the existing traditional sustainability agenda. On a similar thread, just because the focus is on frontier concepts, it does not mean that alternative or brand-new tools are needed to mainstream them. Stakeholders should not be afraid to reformulate, utilise and repurpose traditional tools to support these new ideas. For example, the case studies illustrate that instruments like legislative changes in national constitutions or passing a law, offer a powerful way of legitimising the frontier concept and improve its chances of success.

Recommendations:

- **Continue refining and exploring what a new social contract should include, and the values that are at the core**. While this project has started a baseline for a new social contract, there is a need to further socialise and test the core values with young people and broader stakeholders across the world.

- **Explore the full application of traditional tools of sustainable development, and their potential to be used to mainstream frontier concepts.** The case studies illustrated that traditional tools such as the law do have the capacity to be used to support the implementation of frontier concepts, even if they had historically hindered innovative progress. It is important to not underestimate the potential of these tools in the mainstreaming of a new social contract.

Finding 2: Frontier concepts of development are often centred around social dimensions of development that are qualitative and subjective by nature and therefore hard to quantify and measure.

Many of the traditional concepts that fall short do so because they overlook or miss key aspects due to a focus instead on the objective and measurable. All four key values highlighted in this project

centre on interconnections and relationships, between both people, as well as the environment. However, these characteristics are also likely to make frontier concepts relating to these values more difficult to mainstream, as they are intrinsically built on social components that are by nature qualitative rather than quantitative. As identified in the foresighting methodology, traditional systems of accountability are premised upon measures that fixate on the quantitative, and are not suited for recognising other forms of progress and sustainable development, such as the quality of the relationships built, or the relational experience of engagement. The social nature of these values also points to cultural, and mindset shifts that are required to mainstream frontier concepts. A key theme that emerges from this is the importance of leadership, in not only setting the culture and direction of development, but also ensuring the continued commitment and perseverance that is required to implement a challenge such as frontier concepts.

Recommendations:

- **Explore whether there are innovative ways to consider subjective, interpersonal frontier concepts within the current system of traditional accountability**. In the short to medium future, it is unlikely that there would be a radical shift in the way that accountability is measured. Given this it will be important to develop ways that frontier concepts can be recognised and given validity within this system.

- **Emphasise the importance of the socio-cultural shift that is at the foundation of mainstreaming frontier concepts.** Without that change in mindset, it will be very difficult to generate change that effectively implements frontier concepts. Frontier concepts are not only about changing the way we measure things or creating different policies. They are about changing our relationship, for example to the economy or environment, and shifting our approach to its management and governance. Successful mainstreaming implies a change of culture. Greater emphasis on this aspect is important as cultural change is slow, and the greater the attention, the more likely such a change will be effective.

Finding 3: Frontier concepts of sustainability are focused at the local, rather than the global.

Through our research we have found that frontier concepts are most commonly designed for the local level. For example, the case studies illustrate that a "copy and paste" approach will not be successful. Instead, frontier concepts need to be implemented in a way that reflects the specific context and needs of the communities involved. Arguably this is in direct contrast to globalisation today, where concepts and ideas are mainstreamed through universalisation. Instead, the frontier concepts we identified tend to 'focus on the basics', and on elements and actions which genuinely reflect the needs and ways of being for each community. In this context, the global application of some frontier concepts may also result in its dilution where they may lose their essence. Mainstreaming needs to protect and respect the nature of the frontier concept and recognise that some frontier concepts are most relevant and effective at the local level.

This however does not necessarily mean that frontier concepts cannot be mainstreamed or adopted widely. The issues and crises threatening sustainability are still commonly experienced across the world. Instead, we consider that there is an opportunity to understand how frontier concepts can be communicated and presented in a way that is still relevant to these shared challenges, but can be adapted depending on the local context.

Recommendations:

- **Explore how the SDG Lab can support a more 'glocal' focus on sustainable development**. The SDG Lab's unique positioning in the SDG and UN ecosystem means it has an opportunity to lead the communication and translation of frontier concepts that address similar issues, but can be understood and implemented in different ways.
- **Identify further examples of how 'glocal' solutions are being applied in practice**. For example, there are a number of international agreements where a 'glocal' approach is already being embodied, such as the Convention on Biological Diversity's new targets that require all countries to achieve 30% protected areas by 2030. While every country is accountable to this target, what it looks like and means in practice is significantly different according to the context and needs of each country.

Appendix: Literature Review (complete version)

Introduction

The concept of sustainable development is well-established, and it was first formally defined in the Brundtland Report in 1987 as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs".[86] These ideas were encapsulated in the 2030 Agenda for Sustainable Development, which provides a holistic blueprint for how we can achieve this "peace and prosperity, for people and the planet, now and into the future".[87]

However, the worsening impacts of climate change and socio-economic inequities today illustrate that our current approach to sustainable development has been insufficient and ineffective.[88] Traditional approaches to development have been heavily focused on the idea of economic growth as a synonym of economic development, when, in fact, they have been defined as very different concepts. Economic growth focuses only on the increase of goods and services a country produces, which is traditionally measured through the gross domestic product (GDP) or gross national product (GNI) per capita. In contrast, economic development involves improvements in health, education and other aspects of human welfare; and while economic development needs growth, it is not a sufficient quality.[89] This has been generally measured by the Human Development Index (HDI), created by the UN Development Programme).[90] Throughout this project, the GDP/GNI and the HDI will be understood as examples of "traditional" measurements of sustainable development, as they are mainstreamed by international institutions (World Bank, UN system, OECD etc) and applied by most countries around the globe.

Despite a movement away from traditional concepts and towards more holistic measurements, there is still a large prevalence of economic components and not enough focus on other elements of sustainable development. This critique is widely shared amongst academics, practitioners and civil society, alongside calls to adopt alternative and transformative approaches that will more effectively address the urgent issues we face today.[91]

In this context, this literature review seeks to go beyond the traditional to focus on identifying potential new approaches to sustainable development. Specifically, our research question is: *"what*

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[86] World Commission on Environment and Development, "Our Common Future," 1987.

[87] "THE 17 GOALS | Sustainable Development," accessed April 1, 2023, https://sdgs.un.org/goals#history.

[88] Shivani Kaul et al., "Alternatives to Sustainable Development: What Can We Learn from the Pluriverse in Practice?," *Sustainability Science* 17, no. 4 (July 1, 2022): 1149–58, https://doi.org/10.1007/s11625-022-01210-2; Iman Ibrahim and Nadia Ahmed, "Investigating Regenerative Ideation within Sustainable Development Goals," *Sustainability* 14, no. 16 (January 2022): 10137, https://doi.org/10.3390/su141610137; Nina Eisenmenger et al., "The Sustainable Development Goals Prioritize Economic Growth over Sustainable Resource Use: A Critical Reflection on the SDGs from a Socio-Ecological Perspective," *Sustainability Science* 15, no. 4 (July 1, 2020): 1101–10, https://doi.org/10.1007/s11625-020-00813-x.

[89] Dwight H. Perkins et al., *Economics of Development*, 7. ed (New York: Norton, 2013).

[90] United Nations, "Human Development Index," *Human Development Reports* (United Nations), accessed April 24, 2023, https://hdr.undp.org/data-center/human-development-index.

[91] Kaul et al., "Alternatives to Sustainable Development."

are new frontier/peripheral concepts for sustainable development already identified by current international and national research and policies". We have understood frontier concepts as those which push the boundaries of sustainability, challenging the traditional agenda particularly captured by the SDGs.

Methodology

With the aim of anchoring this project in a framework that was innovative in itself, a value-based approach was followed to structure this initial literature review and future parts of this research. The value dimensions selected are aligned with the results of the survey "The Big Brainstorm" hosted by the United Nations Foundation and the UN SDG Lab, which targets youth from around the world in trying to understand their vision and priorities for the world that is to come.

This survey was launched at the beginning of February 2023, and reached a total amount of 58 responses at the date of this literature review,[92] from young people of almost every continent. The questions included were designed by young change-makers, UN Foundation Next Generation Fellows, working under eight Action Groups focused on some of today's most pressing issues[93]. While the results cannot be taken as representative or unbiased, the results are understood as part of a sensing exercise designed by and for the youth throughout the Big Brainstorm Initiative led by the UN Foundation.

The Big Brainstorm was used to drive the overarching structure of the literature review as it allowed us to centre young people in our approach. As inheritors of our world, the views of young people should play a crucial role in any debate about sustainable development. The literature review also considered the lens of underrepresented perspectives in identifying concepts and indicators related to these values. For example, the worldviews of Indigenous peoples offer a significantly untapped source of knowledge that has been traditionally marginalised in international fora. These approaches are of particular interest in this literature review.

These responses were analysed and discussed with the partner to reach the following value dimensions:

- Healthy relationship with Nature
- Solidarity & Humanity
- Equality & Equity
- Diversity & Inclusion

Each of these dimensions try to encompass more detailed responses given in the survey, that were consolidated in various sub-values.

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[92] 05 April, 2023
[93] "Big Brainstorm," Our Future Agenda, accessed April 5, 2023, https://ourfutureagenda.org/bigbrainstorm/.

Category	Healthy relationship with Nature	Solidarity & Humanity	Equality & Equity	Inclusivity, Diversity
Sub-values	Non-materialism	Unity	Wellbeing	Inclusion
	Climate	Peace	Equal access and development	Community
		Empathy	Reducing inequalities	Participation
		Respect	Sharing	
		Justice	Education	
		Tolerance		

Table 1: Values and sub-values identified from the Big Brainstorm Initiative led by the UN Foundation.

In identifying these dimensions, overlapping is inevitable, but at the same time is intentional. It is important to recognize the interlinkages that exist between these values, and the role they play in generating true well-being as the ultimate goal of sustainable development.
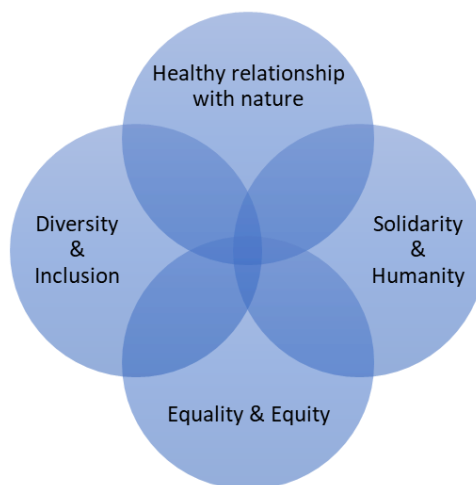

Figure 1: Interlinkages between the value-dimensions

Moreover, the review includes a general description for each of these value dimensions, but also a contextualised interpretation within the field of sustainable development and also in relation to the particular sub-values. From there, relevant concepts are selected and theorised as new or reinterpreted approaches to the corresponding value, to then select relevant indices and indicators that can measure that concept in practice. In selecting both concepts and indicators there was a conscious decision to focus on elements that have not been extensively researched or that still remain in the margins of the field, instead of giving relevance once again to more traditional and mainstreamed ideas.

This value-based methodology and the selection of elements made is not without limitations though, as it remains clear that the survey on which the values where chosen is still not providing representative results. However, they are interpreted in the context of this project as guiding principles that are further supported with extensive secondary research of both academic sources and policy reports.

Within the broader context of this project, this literature review is only the first section that corresponds to the research exercise element. The value-based approach used here will continue to guide the following sections.

The second stage will involve an anticipatory exercise to identify possible triggers for the adoption of these new concepts, and the consequences generated by that adoption. This exercise will be carried out during a workshop organised by the partner during which the concepts with the best scenarios will be identified and reported on.

The project's final stage will focus on action-oriented policy making, through research and conceptual mapping of available tools to mainstream the selected concepts. Where possible, the research findings will be tested with stakeholders during events and forums already established by the partner organisation. Finally, a stakeholder mapping exercise will be conducted to identify the key actors in the ecosystem that could help mainstream the identified concepts.

Harmony with Nature

The first value emerging from the survey holds that humans should live in harmony with nature, striving for a healthy relationship with the Earth. The value recognises that fundamentally, it is nature that facilitates human life.[94] We need to recognise not only that nature is important to humans, but its central role in bringing together and protecting the wider socio-ecological system.[95] Living in harmony with nature therefore calls us to consider non-human aspects, equally with other anthropocentric considerations.[96] This includes physical components of the Earth, such as the atmosphere and oceans, and relational aspects, such as human-nature connections, as well as human aspects.[97] Sustainable development in this context means holistic progress, across all socio-ecological aspects, in a way that supports human well-being and thriving living systems.[98]

The idea of living in harmony with nature is a well-established and internationally understood value. In the 1980s, the United Nations General Assembly (UNGA) adopted the World Charter for Nature which noted that "mankind is a part of nature" and "living in harmony with nature gives man the best opportunities for the development of his creativity, and for rest and recreation.[99] Since then, the value has held persistent importance, and in 2022 the UNGA adopted its thirteenth resolution on harmony with nature.[100] While this desirability to live in harmony with nature has long been recognised, sustainable development today has been criticised for failing to acknowledge our existence within an interconnected and interdependent system which is arguably a cause of the rapidly deteriorating environment and climate change we face today.[101]

There are a number of concepts that have emerged in an effort to reorient our efforts in sustainability toward better achieving harmony with nature. Of these, some interesting concepts that have emerged include those with a particular focus on seeking harmony through a holistic approach. Two examples

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[94] P. Buergelt et al., "Living in Harmony with Our Environment: A Paradigm Shift," in *Disaster Resilience*, ed. Douglas Paton and David Moore Johnston (Springfield, USA: Charles C. Thomas Publisher Ltd, 2017), 289–307.

[95] Leah V. Gibbons et al., "The Development, Application, and Refinement of a Regenerative Development Evaluation Tool and Indicators," *Ecological Indicators* 108 (January 1, 2020): 105698, https://doi.org/10.1016/j.ecolind.2019.105698.

[96] Ibid.

[97] Peter Horton and Benjamin P. Horton, "Re-Defining Sustainability: Living in Harmony with Life on Earth," *One Earth* 1, no. 1 (September 2019): 86–94, https://doi.org/10.1016/j.oneear.2019.08.019; Gibbons et al., "The Development, Application, and Refinement of a Regenerative Development Evaluation Tool and Indicators."

[98] Leah V. Gibbons, "Regenerative—The New Sustainable?," *Sustainability* 12, no. 13 (January 2020): 5483, https://doi.org/10.3390/su12135483.

[99] UN General Assembly (37th Sess.: 1982-1983), "World Charter for Nature.," November 9, 1982, Annex, https://digitallibrary.un.org/record/39295.

[100] Karen Jordan and Kristján Kristjánsson, "Sustainability, Virtue Ethics, and the Virtue of Harmony with Nature," *Environmental Education Research* 23, no. 9 (October 21, 2017): 1205–29, https://doi.org/10.1080/13504622.2016.1157681.

[101] Buergelt et al., "Living in Harmony with Our Environment"; Horton and Horton, "Re-Defining Sustainability"; Crist, "Reimagining the Human"; Paola Villavicencio Calzadilla and Louis J. Kotzé, "Living in Harmony with Nature? A Critical Appraisal of the Rights of Mother Earth in Bolivia," *Transnational Environmental Law* 7, no. 3 (November 2018): 397–424, https://doi.org/10.1017/S2047102518000201.

of these concepts will be examined further: a relational approach that centres on the relationship of humans with nature, and regenerative development.

Key concepts

Relational ontology

One key approach to conceptualising living in harmony with nature is through a relational ontology. Humans are situated in the world through relations, not only with nature, but also with land, fish, our ancestors, and each other - relations are what connect everything.[102] In contrast, the traditional Western worldview reduces the world around us into an object – a physical place that can, and is, separated from humans.[103] In order to live in harmony with nature, we need to shift towards a relational ontology where we understand nature as something that supports and enhances our living, and in turn, requires our care.[104] In particular, a relational ontology is central to the way of being for many Indigenous peoples, embodied in a number of different ways such as the notion of kaitiakiganta (reciprocal guardianship) for the Māori or the philosophical/religious understanding of Shintosim. The relationship is characterised by fundamental values of connectivity, reciprocity, respect, kindness, trust, and restraint.[105] Under this conception, success and wealth is defined not by the ownership and control of resources, but by the quality and health of the relationships with nature.[106]

Regenerative development

Another key concept of living in harmony with nature is regenerative development.[107] This concept particularly emphasises the overarching aim of supporting a thriving and flourishing living system.[108] Regenerative development also sees that humans, alongside social structures, culture, economic systems and the environment are all integral parts of a whole system.[109] In order to achieve a regenerative state, humans should live in alignment with the principles of a healthy living system. This includes biological balance, wholeness, the coexistence and integration of human and nature, and the continual improvement of the ecosystem's health and people's quality of life.[110] In contrast to more traditional paradigms of sustainability, regenerative development adopts a holistic worldview that is not fixed, but is able to integrate and transcend paradigms to leverage aspects that are most meaningful and impactful for sustainability.[111]

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[102] Max Liboiron, *Pollution Is Colonialism*, *Pollution Is Colonialism* (Duke University Press, 2021), https://doi.org/10.1515/9781478021445.

[103] Tony Loughland et al., "Factors Influencing Young People's Conceptions of Environment," *Environmental Education Research* 9, no. 1 (February 2003): 3–19, https://doi.org/10.1080/13504620303471.

[104] Ibid.

[105] Samantha Muller, Steve Hemming, and Daryle Rigney, "Indigenous Sovereignties: Relational Ontologies and Environmental Management," *Geographical Research* 57, no. 4 (2019): 399–410, https://doi.org/10.1111/1745-5871.12362; Buergelt et al., "Living in Harmony with Our Environment."

[106] Muller, Hemming, and Rigney, "Indigenous Sovereignties."

[107] Ibrahim and Ahmed, "Investigating Regenerative Ideation within Sustainable Development Goals."

[108] Gibbons, "Regenerative—The New Sustainable?"

[109] Ibid.; Buergelt et al., "Living in Harmony with Our Environment."

[110] Ibrahim and Ahmed, "Investigating Regenerative Ideation within Sustainable Development Goals"; Gibbons, "Regenerative—The New Sustainable?"

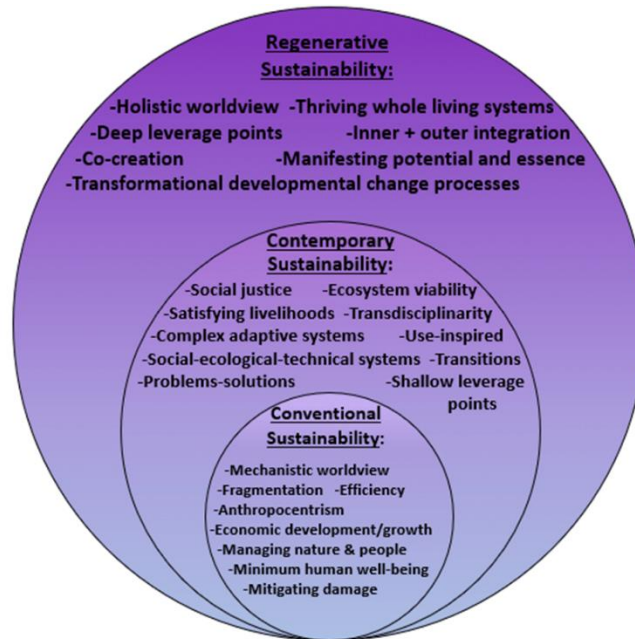[111] Gibbons, "Regenerative—The New Sustainable?"

Figure 2: Different sustainability paradigms[112]

Indicators and Indices

In practice, the literature reflects varying approaches to how regenerative development can be applied and measured.[113] One study by Gibbons proposes a comprehensive framework of principles, characteristics and indicators for measuring a system's state of regenerative development.[114] Gibbons suggests that the process of populating information across the framework encourages the use of qualitative and quantitative data such as explanations and narratives that illustrate regenerative interconnections. A consideration of the indicators proposed by Gibbons in particular illustrates the importance of addressing 'inner sustainability' such as worldviews and behaviours in order to achieve sustainable change on the outside.

Table 2: Regenerative development indicators[115]

Category	Indicator
Dynamics	Self-organization
	Adaptation
	Transformation (cascading change upscale to qualitatively different states)
	Emergence (new levels of order, complexity, organization)
	Increasing complexity

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112 Ibid.

113 Ibid.

114 Ibid.

115 Ibid.

	Cycles (energy, nutrients, water)—local, across scales	
	Resilience	
Structure	Local-scale exchanges (e.g., local economies, rainwater infiltration)	
	Decentralization	
	Self-sufficiency	
	All levels of work present: operate, maintain, improve, regenerate	
Relationships	Networking/guilding	
	Positive reciprocity	
	Increase in capitals (natural, social, human, financial, built)	
	Adding value upscale (enabling larger scales to manifest their potential)	
Worldviews	Sacred view of all life	
	Humans as producers, not consumers	
	Compassion	
	Empathy	
	Responsibility	
	Positive reciprocity	
	Meaningful existence in relationship to place	
Affects	Increasing understanding of place	
	Willingness to change	
	Deep care, will, action	
	Strong sense of place, belonging	
	Place-based/place-specific actions	
	Collaboration/cocreation	
	Including multiple subjective and objective points of view	
	Innovation	

There are no stand-out measures of relational ontology in the literature. This likely represents the difficulty of measuring and defining indicators relating to relationships.

Solidarity and Humanity

The idea of solidarity has been a part of how humans relate for centuries. It can be linked back to philosophical and religious roots, representing the cohesion of a particular community and the collective moral obligations that unifies the group.[116] In this sense, solidarity is considered as "the unity of all humanity", or the universal connection among all humans. [117] While striving for such values may seem aspirational, they are also fundamental to how we as a society can work together to address common challenges, and improve wellbeing for all.[118]

As the world has continued to grow rapidly, there have been increasing calls for a return back to solidarity and humanity. While globalisation has brought great benefits to society as a whole[119], it has also been argued that it contributed to facilitating the pursuit of individualism, breaking down social bonds and threatening global solidarity.[120] These trends have also broken-down notions of empathy which are fundamental to the way that humans understand and relate to each other.[121] Humans are "united through the powers and possibilities of empathy", not only with other humans, but also in relation to the environment, and non-human aspects of the world we live in. [122]

For this project, there has been a large emphasis placed on the world that society is leaving for future generations, an aspect that has been missing in traditional measures of development, as we analyse current trends but not its impact in the future. For that reason, the concepts and indicators selected for this section focus particularly on future generations, and children. The concepts that will be introduced next take a look at solidarity and empathy, as the relationship between humans, those of today and tomorrow, and with the world we live in.

Key Concepts

Intergenerational Solidarity

If we understand sustainable development as the Brundtland Report defines it, the needs of future generations are equally as important as the needs of current generations[123], and intergenerational solidarity acquires a crucial relevance. Defined as "investments or sacrifices that are intended to

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[116] Sally J. Scholz, "Seeking Solidarity," *Philosophy Compass* 10, no. 10 (2015): 725–35, https://doi.org/10.1111/phc3.12255.

[117] Ibid.

[118] "Recoupling Dashboard - Solidarity Index," *Global Solutions Initiative | Global Solutions Summit* (blog), accessed April 2, 2023, https://www.global-solutions-initiative.org/programs/recoupling-dashboard-homepage/recoupling-dashboard-2020/recoupling-dashboard-solidarity-index/.

[119] D. Gale Johnson, "Globalization: What It Is and Who Benefits," Journal of Asian Economics 13, no. 4 (July 1, 2002): 427–39, https://doi.org/10.1016/S1049-0078(02)00162-8.

[120] Lawrence Wilde, "The Concept of Solidarity: Emerging from the Theoretical Shadows?," *The British Journal of Politics and International Relations* 9, no. 1 (February 1, 2007): 171–81, https://doi.org/10.1111/j.1467-856x.2007.00275.x.

[121] Carolyn Calloway-Thomas, *Empathy in the Global World: An Intercultural Perspective* (SAGE, 2010).

[122] Ibid.; Katrina Brown et al., "Empathy, Place and Identity Interactions for Sustainability," *Global Environmental Change* 56 (May 1, 2019): 11–17, https://doi.org/10.1016/j.gloenvcha.2019.03.003.

[123] United Nations, "Report of the World Commission on Environment and Development: Our Common Future," 1987, https://www.are.admin.ch/dam/are/en/dokumente/nachhaltige_entwicklung/dokumente/bericht/our_common_futurebrundtlandreport1987.pdf.download.pdf/our_common_futurebrundtlandreport1987.pdf.

increase or sustain the wellbeing of future generations" by Jamie McQuilkin, this concept has recently gained significant traction at the international level.[124] Many countries have already been working in implementing this idea, especially through national collaboration processes. Two examples of these are the Finish Committee for the Future, standing since 1993, and the Wale's Well-being of Future Generations Act.[125]

By considering different kinds of capital – environmental, economic, and social – the concept of intergenerational solidarity aims to establish a link between current policies and the effects they will have in the future. What is more, as future generations have no voice or influence in current policy-making decisions, this concept tries to operationalize their interests through the current generation's choices. This is a concept that forces countries into long-term thinking in a way that guarantees intergenerational justice and equity.

Active empathy for life

In Peru, Joaquin Lequia, an educator, Ashoka Fellow and founder of the NGO ANIA, conceptualised the idea of "active empathy for life" based on his belief that we must empower children to be agents of change on behalf of Mother Earth. He defined this concept as "the ability to prioritise the common good through daily actions that generate well-being for oneself (body, mind, and spirit), other people (those who we love, see and do not see) and our planet (soil, air, water, plants, animals and ecosystems)".[126] Conceived as an unofficial 18th SDG, this concept proposes four objectives that particularly focus on children and future generations:

- Objective 1: Promote the right of children and adolescents to grow up in contact with Mother Earth, to love and care for her, and to be loved and cared for by her-
- Objective 2: Promote the right of Mother Earth for new generations to grow up with her, so she will be loved and cared for, in the present and the future.
- Objective 3: Valuing and empowering new generations as agents of change.
- Objective 4: Promote active empathy for life globally.

However it is important to note the framework does not include a tangible way to measure and operationalise this concept of active empathy. .

Indicators and Indices

Intergenerational Solidarity Index

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[124] Jamie McQuilkin, "Doing Justice to the Future: A Global Index of Intergenerational Solidarity Derived from National Statistics," *Intergenerational Justice Review* Vol 12 (June 29, 2018): No 1 (2018): Measuring Intergenerational Justice for Public Policy (II), https://doi.org/10.24357/IGJR.12.1.639.

[125] Özge Aydoğan, Eleonora Bonaccorsi, and Trine Schmidt, "Policy Brief: Placing Future Generations at the Heart of Sustainable Development | SDG Knowledge Hub | IISD," accessed April 24, 2023, https://sdg.iisd.org:443/commentary/policy-briefs/placing-future-generations-at-the-heart-of-sustainable-development/.

[126] Joaquin Lequia, "Home | Active Empathy for Life," EAV, accessed April 2, 2023, https://www.empatiaactivaporlavida.com/en.

In 2018 Jamie McQuilkin devised this index with the goal of showing how different countries perform in terms of assuring the future of the generations to come.[127] The index compiles results from ten indicators of environmental, social and economic solidarity and covers 122 nations. The dimensions are then averaged and penalised by the amount of hydrocarbon each nation produces. This last element of penalization is interesting as it tries to account for the fact that some policies that target future generations, like sovereign wealth funds, can actually be counterproductive in environmental terms. As an example of the argument made about overlapping between value-dimensions, it is clear that in terms of solidarity, harmony with nature now is what will allow future generations to inherit a livable world.

Table 3: Indicators of the Intergenerational Solidarity Index

Dimension of capital transfer	Indicators
Environmental	Annual forest cover change
	Carbon footprint intensity
	Renewable and nuclear energy
Economic	Wealth inequality Gini coefficient
	Current account balance
	Adjusted Net Savings
Social	Primary pupil teacher ratio
	Difference between expected and actual child mortality based on GDP/c regression
	Predicted birth rate per woman; adjusted for child mortality
Penalty	Fossil hydrocarbon production

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[127] Jamie McQuilkin, "Doing Justice to the Future: A Global Index of Intergenerational Solidarity Derived from National Statistics," *Intergenerational Justice Review* Vol 12 (June 29, 2018): No 1 (2018): Measuring Intergenerational Justice for Public Policy (II), https://doi.org/10.24357/IGJR.12.1.639.

Equality and Equity

Equality means each individual or group of people is given the same resources or opportunities. Equity recognizes that each person has different circumstances and allocates the exact resources and opportunities needed to reach an equal outcome. Put another way, equality is about being equal in status, rights and opportunities, whereas equity is about how we get there through fairness and impartiality. Equality sets the ground rules for creating a fair playing field, but it needs equity to make sure that everyone can compete on that field.[128] From a sustainability perspective, these concepts could be interpreted as a world where people are empowered to achieve their full potential, enjoy their human rights and contribute as agents of change for the benefit of everyone, everywhere.[129]

Measuring inequality is typically done with indicators that place specific values along a specific distribution in order to facilitate comparisons.[130] These indexes usually focus on income differences (ex. Gini Index, GDP). However, looking at inequality through the context of the 2030 Agenda and the effect of new technologies, new aspects would need to be included (Access to technology, access and use of data, gender differences, etc)[131]

According to OECD, in order to decrease inequality, some keys actions would include:[132]

- Improving the employment situation, especially for young people who are the most affected.
- Up-skilling the workforce and removing barriers to higher labour force participation of women, thereby strengthening gender equality.
- Providing public services such as education and health.
- The reform of taxes and new benefit policies.

Based on this analysis, and the values identified in "The Big Brainstorm" survey, we decided to focus on inequality and equity in three main areas: gender, education and economic access from a country's perspective.

Key Concepts

Purple economy

The term "purple economy" was first coined by Ipek Ilkkaracan, a Professor of Economics at Istanbul Technical University, during a green economy conference organised by the Turkish and German Greens in 2009 in Istanbul.[133] It conveys the vision of a gender-egalitarian economic system. The purple economy entails 'four pillars' aimed at the recognition, reduction and redistribution of unpaid care work, including a universal infrastructure of social care services whereby all households have equal access to quality professional paid care services for children, ill, elderly and disabled; regulation

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[128] "International Women's Day: What's the Difference between Equity and Equality?," World Economic Forum, March 3, 2023, https://www.weforum.org/agenda/2023/03/equity-equality-women-iwd/.

[129] 5th United Nations Conference on the Least Developed and Countries, "For All Generations: A Youth Declaration to the 5th United Nations Conference on the Least Developed Countries," 2023.

[130] UNCTAD. "The Many Faces of Inequality," April 5, 2019. https://sdgpulse.unctad.org/in-focus-inequality/.

[131] Ibid.

[132] "Global Inequalities: How Can They Be Addressed? - OECD," accessed April 2, 2023, https://www.oecd.org/cfe/festivaleconomiatrento2013globalinequalitieshowcantheybeaddressed.htm.

[133] Care Is an Economic Issue: Addressing Gender Inequalities in Care Work," *IWRAW Asia Pacific* (blog), accessed April 2, 2023, https://www.iwraw-ap.org/ipek-ilkkaracan-purple-economy/.

of the labour market for work-life balance; special measures aimed at reducing the unpaid work burden of rural households, especially the unpaid work of rural women and an alternative macroeconomic policy framework that enables the undertaking of the above three pillars.[134]

Wellbeing economy

A well-being economy recognizes that people need to restore a harmonious relationship between society and nature, enjoy a fair distribution of resources to address economic inequality, and live in healthy and resilient communities.[135] These elements are beginning to emerge in the individual policies of several countries. New Zealand, for example, introduced the first Wellbeing Budget in 2019, placing citizen well-being and environmental sustainability at the heart of budgeting decisions.[136] By redefining the goals and expectations of politics, businesses, and society, countries can transform the traditional economy focused on economic growth into an economy that builds and sustains a healthy and prosperous world.[137]

Indicators and Indices

As illustrated by the indicators below, concepts in equality and equity have been well-applied into practice for measurement and evaluation.

Gender

When it comes to gender, there are many contradictions at the international level. Although women are the primary producers of food globally, they have limited or no rights to land ownership in many parts of the world. Subordination of women to men regardless of educational level is enshrined in family law in many parts of the Middle East, South Asia, and Sub-Saharan Africa, and there is still a lot to do when it comes to equal employment opportunities.[138]

An additional challenge in this area is inequality justified by religious beliefs. Women and girls have oftentimes suffered from patriarchal interpretations of almost all religions,[139] which limits their access to education, justice, health services, job opportunities and freedom of expression. From this point of view, it would seem impossible to harmonise freedom of religion or belief (FoRB) and gender equality. The key would be to recognize that, "while the right to *have* (or not have) a religion or belief is a non-derogable right, the right to *manifest and practice* this religion or belief can be limited in very specific circumstances; most importantly when the practices and manifestations of some people violate the rights and freedoms of others. As such, FoRB can never be used to justify violations of women's rights or other rights related to gender equality."[140] In some circumstances, these two elements will still clash. Some of the recommendations put forward by the Expert Consultation Process on Freedom of

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[134] Ibid.

[135] "The Vision of a Well-Being Economy," accessed April 2, 2023, https://ssir.org/articles/entry/the_vision_of_a_well_being_economy.

[136] New Zealand Treasury, "The Wellbeing Budget 2019," 2019.

[137] Ibid.

[138] National Intelligence Council, "Global Trends 2040: A More Contested World," accessed April 2, 2023, https://www.dni.gov/index.php/gt2040-home/introduction.

[139] "Module 5: Women, Girls and Gender Equality." OHCHR,. https://www.ohchr.org/en/faith-for-rights/faith4rights-toolkit/module-5-women-girls-and-gender-equality.

[140] Petersen, Marie Juul. "Women's Rights and Freedom of Religion or Belief." *Universal Rights Group* (blog), December 11, 2019. https://www.universal-rights.org/blog/womens-rights-and-freedom-of-religion-or-belief/.

Religion or Belief, Gender Equality and the Sustainable Development Goals include the repeal of discriminatory family laws, educational reforms to ensure inclusive education for all, heightened attention to the gendered consequences of religious persecution, and most importantly, the need for a nuanced understanding of, and engagement with, religious actors when addressing gender and religiously based inequalities. [141]

Recognizing that women are a fundamental part of our society, the following indicators take a look at the additional challenges they need to face just to have the same opportunities as men.

The Women, Business and the Law Index employs eight indicators that are structured around women's interactions with the law as they begin, progress through and end their careers, showing how legislation influences women's equality of opportunity during different phases of their working lives and affects economic outcomes.[142]

Figure 3: Indicators of the Women, Business and the Law Index


Gender Inequality Index (GII) was introduced by UNDP in 2010. It is a composite metric of gender inequality using three dimensions: reproductive health, empowerment and the labour market. A low GII value indicates low inequality between women and men, and vice-versa.[143]

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[141] Petersen, Marie Juul. "Promoting Freedom of Religion or Belief and Gender Equality in the Context of the Sustainable Development Goals: A Focus on Access to Justice, Education and Health." *The Danish Institute for Human Rights*, n.d. https://www.humanrights.dk/sites/humanrights.dk/files/media/document/_%2019_02922-22%20freedom_of_religion_or_belief_gender_equality_and_the_sustainable_development_%0fd%20487747_1_1.PDF.

[142] "Women, Business and the Law 2019 | Women, Business and the Law," accessed April 2, 2023, https://elibrary.worldbank.org/doi/abs/10.1596/31327.

[143] United Nations, "Gender Inequality Index," *Human Development Reports* (United Nations), accessed April 2, 2023, https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index.

Figure 4: Dimensions and Indicators of the Gender Inequality Index
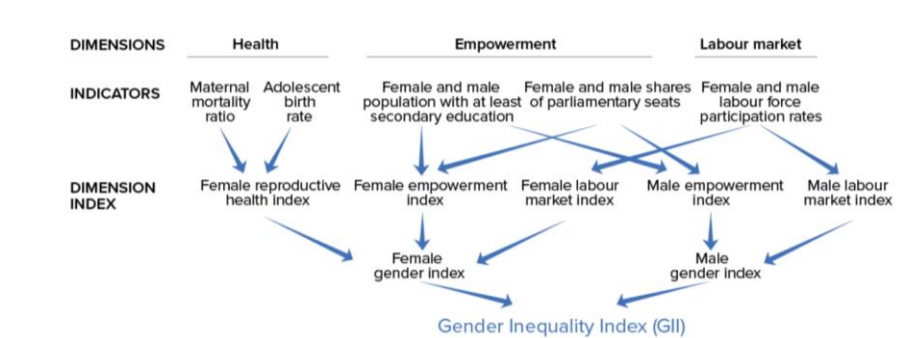
Education

Future demographic trends show an ageing population in developed nations. Relatively poor countries in Sub-Saharan Africa and South Asia will account for almost all global population growth during the next two decades and will be rapidly urbanising at the same time, most likely overwhelming their capacity to provide the infrastructure and education systems necessary to fully harness their economic growth potential.[144] To make sure we are ready for these challenges, new indicators should be considered:

The Right to Education Index (RTEI): is a global accountability initiative that monitors the extent to which governments are meeting their obligations around the right to education and aims to ensure that all people, no matter where they live, can enjoy their right to a quality education.[145]

UNICEF Remote Learning Readiness Index (RLRI): A composite indicator to assess resilience of the education sector against crises and emergencies. The index ranks countries' performance, with countries at the top receiving five stars and those at the bottom one star. By identifying the weakest links in each country's efforts to deliver remote learning, the RLRI sheds light on areas for potential collaboration among governments, the private sector, NGOs, and other education stakeholders.[146]

Economic Equality

Another aspect that we can't leave behind when talking about a new social contract is equitable economic opportunities, income and wealth.[147] If we look at it at the international level, we can see that some nations face more obstacles than others when trying to develop their economies. Small islands in the Caribbean have serious development challenges: trade openness; dependence on energy; limited diversification; restricted access to external capital; and weaknesses in institutional capacity.[148] To make it even worse, these countries are more susceptible to natural disasters and climate change that they did not contribute to, but that will affect them the most, including raising sea levels and extreme weather patterns like stronger hurricane-strength storms, coastal flooding,

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[144] National Intelligence Council, "Global Trends 2040: A More Contested World."

[145] "About, The Right to Education Index," accessed April 2, 2023, https://www.rtei.org/en/about/.

[146] UNICEF DATA, "Ensuring Equal Access to Education in Future Crises: Findings of the New Remote Learning Readiness Index," October 27, 2021, https://data.unicef.org/resources/remote-learning-readiness-index/.

[147] St. Gallen Symposium, "A New Generational Contract: Global Initiative for Intergenerational Fairness and Ambitions," 2022.

[148] Justin Ram, "Measuring Vulnerability: A Multidimensional Vulnerability Index for the Caribbean," n.d.

storm surges, and droughts. These issues, along with high indebtedness ratios, make it almost impossible for them to advance their economies. In order to level the playing field, a new index has been developed:

Multidimensional Vulnerability Index: in its current form is made up of 18 indicators across three categories, reflecting the three broad dimensions of structural vulnerability. Economic vulnerability is the probability that a country is affected by economic and financial external shocks. Structural development limitations refer to those geophysical constraints such as smallness and remoteness, which hinder the development progress of a country. Environmental vulnerability is the exposure of a country to the impacts of climate change and natural disasters.[149]

Figure 5: SDSN Framework for the Multidimensional Vulnerability Index

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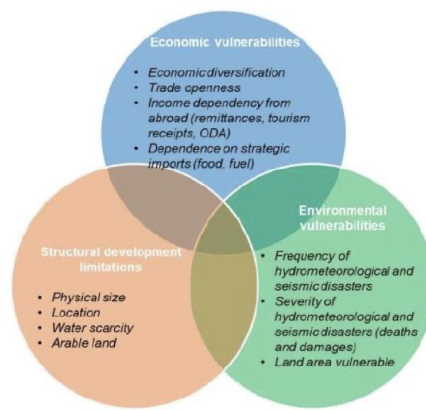
[149] UN Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and the Small Island Developing States, "Multidimensional Vulnerability Index: Potential Development and Uses," October 2021.

Inclusivity and Diversity

In its most basic form, diversity can be defined in what makes individuals different (age, gender, ethnicity, culture, religion, etc.), and it is considered to be an inherent value of humanity. In turn, inclusion's intrinsic value is rooted in a sense of belonging, to a group, to a space, or to society itself.[150] In the context of sustainable development, social inclusion is the process through which we can improve the terms on which individuals and groups take part in society;[151] calling to the idea that every person, regardless of their identity, is instrumental in generating change. [152] To establish a clear differentiation with the previous dimension, one has to think about inclusion and diversity as belonging and acceptance within a space, a feeling that the difference is valued and appreciated, while equality and equity can be interpreted as a previous step in which these groups need to gain access first, to a space or to opportunities.

Diversity and inclusion can be understood as two sides of the same coin; as Mary-Frances Winters states, "diversity is about counting heads; inclusion is about making [those] heads count".[153] Based on this, inclusion is seen as an action to welcome diversity in a way that allows groups and individuals to reach their full potential, but also to enhance overall success yielding better outcomes for sustainable development.[154] Following that line, participation can be seen as a way to materialise inclusion, both in terms of access to decision-making spaces and having the capabilities to exercise that participation.[155]

Now, while we could discuss the inclusion and participation of many marginalised populations, in this case we have chosen to focus on two: youth and Indigenous communities. According to the UN, young people account for 16% of the current global population, and they are affected by some of the most pressing issues in a larger proportion than other demographic groups.[156] Furthermore, today's youth will be living and leading tomorrow's world for them and for the still unborn generations. In this sense, having a seat at the table is crucial. Indigenous communities, in turn, have been at the receiving end of some of the worst consequences of climate change and global warming while they continue being

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[150] Franziska Felder, "The Value of Inclusion: The Value of Inclusion," *Journal of Philosophy of Education* 52, no. 1 (February 2018): 54–70, https://doi.org/10.1111/1467-9752.12280.

[151] "Social Inclusion," World Bank. Understanding Poverty, accessed March 28, 2023, https://www.worldbank.org/en/topic/social-inclusion.

[152] "Inclusive Development," U.S. Agency for International Development, September 12, 2022, https://www.usaid.gov/inclusivedevelopment.

[153] Mary-Frances Winters, "From Diversity to Inclusion: An Inclusion Equation," in *Diversity at Work: The Practice of Inclusion*, ed. Bernardo M. Ferdman and Barbara R. Deane, 1st ed. (Wiley, 2013), 205–28, https://doi.org/10.1002/9781118764282.ch7.

[154] Ibid.

[155] Joyeeta Gupta and Courtney Vegelin, "Sustainable Development Goals and Inclusive Development," *International Environmental Agreements: Politics, Law and Economics* 16, no. 3 (June 2016): 433–48, https://doi.org/10.1007/s10784-016-9323-z.

[156] "Youth," United Nations (United Nations), accessed March 30, 2023, https://www.un.org/en/global-issues/youth.

marginalised.[157] There is also valuable ancestral knowledge within these communities that may be key to achieving true harmonious and sustainable development.[158]

Key Concepts

Relational Indigenous Epistemologies

According to researchers Waldmüller, Yap, and Watene this concept originates as a response to the exclusion of indigenous worldviews from the conception and implementation of the global agenda.[159] Current epistemic infrastructures leave no space for different understandings of development. In the sidelines, indigenous communities have been elaborating their own approaches and indicators, framed under the idea of relational wellbeing, rather than "sustainable development".[160] In turn, according to these authors, through relational epistemologies they have conceived contextualised and locally based approaches to development. An example of this is the "Buen Vivir" goals in Ecuador, good living standards based on indigenous knowledge that have been enshrined in their constitution since 2008.[161] This emerging approach showcases the importance of bottom-up articulation, knowledge inclusion and diverse implementation of global measurements.[162]

From presence to influence[163]

A concept taken up as such in a joint report by Plan International and the Asian Development Bank, this concept calls to an idea that many young activists have already brought forward: while there has been recognition of the need for youth participation, their involvement is still seen as one more box to check than an actual source of innovation and inclusiveness. More spaces are being opened for young people to express their views; however, those messages do not easily transform into action.[164] Given these official channels appear blocked or limited, youth are increasingly turning to protesting

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[157] Walter Leal Filho et al., "Impacts of Climate Change to African Indigenous Communities and Examples of Adaptation Responses," *Nature Communications* 12, no. 1 (October 28, 2021): 6224, https://doi.org/10.1038/s41467-021-26540-0; "Indigenous Peoples Rights Are Human Rights," Amnesty International, accessed March 31, 2023, https://www.amnesty.org/en/what-we-do/indigenous-peoples/.

[158] Timothy MacNeill, "Indigenous Sustainable Development," in *Indigenous Cultures and Sustainable Development in Latin America*, by Timothy MacNeill (Cham: Springer International Publishing, 2020), 237–50, https://doi.org/10.1007/978-3-030-37023-7_11.

[159] Johannes M Waldmüller, Mandy Yap, and Krushil Watene, "Remaking the Sustainable Development Goals: Relational Indigenous Epistemologies," *Policy and Society* 41, no. 4 (November 10, 2022): 471–85, https://doi.org/10.1093/polsoc/puac026.

[160] Ibid.

[161] Alberto Acosta and Mateo Martínez Abarca, "CHAPTER 6 BUEN VIVIR: AN ALTERNATIVE PERSPECTIVE FROM THE PEOPLES OF THE GLOBAL SOUTH TO THE CRISIS OF CAPITALIST MODERNITY," in *The Climate Crisis: South African and Global Democratic Eco-Socialist Alternatives*, ed. Vishwas Satgar (Wits University Press, 2018), 131–47, https://doi.org/10.18772/22018020541.

[162] Waldmüller, Yap, and Watene, "Remaking the Sustainable Development Goals."

[163] "What's the Evidence? Youth Engagement and the Sustainable Development Goals" (Plan International UK. Asian Development Bank, 2018), https://www.adb.org/sites/default/files/publication/466811/youth-engagement-sdgs.pdf.

[164] Sofia Biasin, "Next Generation, Youth? Why We Need More Youth Participation in Sustainable Development Policy," CYIS, August 11, 2021, https://www.cyis.org/post/next-generation-youth-why-we-need-more-youth-participation-in-sustainable-development-policy.

and social media for their activism.[165] Apart from this, education, training, and opportunities, especially for youth in developing countries, remains a stronger barrier to decision-making spaces. To gain influence, true participation should start with capacity building and at the local level, a strategy that should also apply to other groups such indigenous communities.

Indicators and Indices

Inclusiveness Index

Created by the Othering and Belonging Institute, this index takes a holistic approach to measure the degree of inclusivity that different marginalised groups experience across the world. In contrast to other instruments, the Inclusiveness Index conceives the concept in its own terms rather than as part of a general condition for well-being or wealth. To operationalize inclusivity, they focus on "the degree of institutional inclusion and protection extended to vulnerable groups".[166] Key indicators include out-group violence, political representation, income inequality, anti-discrimination laws, rates of incarceration and immigration and asylum policies. This is a general indicator to have a measurement of inclusion as a whole, as it looks at different elements that are not necessarily mentioned in the description of the concept. Additionally, as this section has focused on particular excluded groups, bringing a general index helps have an overall picture of inclusion in broader terms.

Youth Participation Index

Designed in 2016 by the Youth Hub of Western Balkans and Turkey, the Youth Participation Index measures the level of opportunity young people have to participate in decision-making processes.[167] The Index reports on three dimensions of participation: political, economic, and social. Data from the national statistics was used to build the indicators, consequently comparability between measurements remains the biggest challenge with the measurements selected. While the Index is currently being used in a particular region, it has potential to be expanded globally. As its name says, this index is particularly directed towards measuring the aspirational concept of "from presence to influence". However, there is a subjectivity to it in terms of achieving participation that has true impact, that has not yet been captured by indicators. To that end, any index or indicator should try to measure the results of youth participation in terms of policy change, which can prove to be challenging given the presence of many interactive variables.

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[165] Megan Carnegie, "Gen Z: How Young People Are Changing Activism," *BBC*, August 8, 2022, https://www.bbc.com/worklife/article/20220803-gen-z-how-young-people-are-changing-activism.

[166] "Inclusiveness Index | Othering & Belonging Institute," accessed March 31, 2023, https://belonging.berkeley.edu/inclusiveness-index.

[167] "Youth Participation Index. Monitoring Report of Political, Social and Economic Participation of Youth 2021" (Youth HUB Western Balkans and Turkey, 2021), https://youthwbt.eu/wp-content/uploads/2023/02/Divac_YPI-2021_Brosura_DIGITALNA-VERZIJA.pdf.

Table 4: Youth Participation Index

Indicators of political participation	Percentage of young ministers in Government
	Percentage of young deputy ministers in Government
	Percentage of young MPs in the parliament
	Percentage of young mayors
	Use of online tools for information and participation in the decision-making process of government and parliament institutions
	Use of online tools for information and participation in the decision-making process within municipalities
	Existence of youth structure (councils/parliaments/unions) on a national level
	Existence of youth structure (councils/parliaments/unions) on a local level
Indicators of economic participation	NEET rate
	Youth unemployment rate
	Long-term youth unemployment rate
	Youth labour force participation rate
	Youth employment rate
	Young people that started their own business with the financial support of the state *not used in the calculation of the Index
	Self-employed young people *not used in the calculation of the Index
Indicators of social participation	Young people at risk of poverty
	Young people in prisons
	Young people who are a part of social protection system *not used in the calculation of the Index
	Dropout from secondary education *not used in the calculation of the Index
	Young people who enrolled in tertiary education *not used in the calculation of the Index
	Young people who graduated from tertiary education *not used in the calculation of the Index
	Participation rate in non-formal education and training (last 4 weeks) *not used in the calculation of the Index
	Share of early leavers from education and training, persons aged 18–24 years
	Population aged 30-34 with tertiary educational attainment level
	Participation rate in formal and non-formal education and training (last 4 weeks)

While these indicators refer to almost all of the concepts previously mentioned, there are some operationalization and measurement problems when it comes to more subjective ideas, like Relational Indigenous Epistemologies. Notwithstanding, when it comes to specific frameworks, like the "Good Living" concept, some countries have developed operationalization methods to capture the different dimensions of the concepts in indicators. For example, Ecuador has adopted a framework to capture the three areas of Good Living: people's internal harmony, harmony with nature, community's social harmony. [168]

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[168] M León, "Del discurso a la medición: Propuesta metodológica para medir el Buen Vivir en Ecuador," Instituto Nacional de Estadísticas y Censos (INEC), 2015, https://www.ecuadorencifras.gob.ec/wp-content/uploads/downloads/2016/10/Buen-Vivir-en-el-Ecuador.pdf

Conclusion

Throughout this literature review, we canvassed four value-dimensions as a way of exploring frontier concepts of understanding and measuring sustainable development. Within each category, concepts and indicators were selected based on their innovation in approaching development. In this sense, selecting a value-based approach to guide this research proved to be fruitful. This methodology allowed us to shed light not only on marginal concepts in relation to each value, but also areas of knowledge and action that are not in the traditional space. Furthermore, the concepts and indicators identified showed the expected overlap between categories, which reinforces our initial proposition that these value-dimensions are elements of a broader holistic idea of harmony and wellbeing. Following that, concepts can be divided into two areas; on one side harmony with nature and on the other harmony with each other. This is an understanding that could be explored in further research and throughout the rest of this project.

Substantively there are a number of key conclusions that can be drawn from this literature review. First, the degree of marginality of some of the indicators we explored is likely to make mainstreaming challenging. Secondly, the critical need for many of the concepts and indices we considered is around empowerment and recognition, especially for Indigenous communities. The mainstreaming tools we consider will need to focus on this. Further research into how these concepts and indicators are being applied in local contexts can help illustrate whether mainstreaming is possible and the enabling factors and tools that support this. However, the challenges relating to operationalisation of some concepts is a limitation for mainstreaming. The lack of tested indicators can limit wide-spread policy implementation, as there is no clear way of measuring and evaluating the impact of the respective policy change.

Most of all, across these frontier concepts emerges a unifying sentiment that we have driven humanity into a state of disharmony. This has led to the deterioration of nature; division instead of solidarity and humanity; entrenched inequality and inequity; and exclusion which is erasing the diversity of the world we live in today. The concepts considered in this review illustrate how re-finding harmony is important for achieving positive wellbeing outcomes for all.[169]

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[169] Tomas Chaigneau et al., "Reconciling Well-Being and Resilience for Sustainable Development," *Nature Sustainability* 5, no. 4 (April 2022): 287–93, https://doi.org/10.1038/s41893-021-00790-8.

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