

Governance for Future Generations: A Global Review of the Implementation of Intergenerational Equity

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1 Introduction

“The credit crunch is about borrowing from our children; the climate crunch is about stealing from them” (Göpel & Arhelger, 2010). In this statement, David Pencheon, Director of the National Health Service Sustainable Development Unit, compares two current global challenges in terms of their relationship with something that tugs on the heartstrings of most individuals: their children. This emotive claim is a response to the stark scientific reality that we have entered a new environmental epoch, the ‘Anthropocene’, with levels of human impact never before experienced on our planet, which are a threat for the collective future of mankind (Biermann, 2014). One of the most significant of these is the threat posed by climate change (Biermann, 2014; Caney, 2014; S. Gardiner, 2011; S. M. Gardiner, 2006; Knutti & Rogelj, 2015; Wood, 2016).

The response to this challenge in the form of actions by political decision makers remains mismatched with scientific research and resulting recommendations (Biermann, 2014, p 8). This research focusses on exactly those “actions by political decision-makers”, or in other words, the governance of climate change and how the Anthropocene creates “intergenerational interdependence” because the cause and effect of earth system transformation are decades apart (Biermann, 2014, p 38). This is a problem for the way that we govern our societies at every level because “such planning horizons exceed the tenure and even the lifetime of present decision makers and stakeholders” (Biermann, 2014, p 38). In short, this research aims to address a natural science problem with a political science perspective.

The temporal dimension of climate change is one of the biggest challenges in progressing solutions. The problem is one that has to be addressed in the present because of a threat and imperative of the future: this distance between cause and effect has psychological, economic, social and political ramifications, making it complex, uncertain, intangible, and “wicked” (S. Gardiner, 2011). The problem is also inherently unjust, as those who will feel the impacts of climate change first and experience the most significant existential threat from it are not those who have done the most to cause climate change (Mary Robinson Foundation, 2013, 2015). This injustice can be manifested across many categorizations and typologies of our world, in geography, development, over time, etc.

The concept of intergenerational equity is how the temporal dimension of the injustice of climate change is described. This concept is most commonly used to discuss issues of justice by advocacy groups, frequently in the international context, rather than in academic analysis. However, intergenerational equity has economic, moral, social and political dimensions which make it a core concept for all sectors and disciplines in trying to deal with the challenge of climate change. Thus, “the concept of “intergenerational justice” may very well become an intellectual leitmotif of the new century” (Tremmel, 2006).

However, equity is a notoriously difficult concept to study scientifically. It has polarized the academic community to such an extent that papers have been published specifically relating to this discussion (Buchanan & Keohane, 2006; Klinsky et al., 2016). This thesis seeks to move this discussion forward, by demonstrating how one concept of equity related to climate change can be understood in such a way that it can be empirically studied, and offering solutions to tackling this fundamental global issue. As is demonstrated by the number of cases studied in this research, debate about studying equity is distracting from the reality of effective implementation which is currently being experienced and pursued by over 100 countries around the world.

This thesis will elaborate on the conceptual foundations, the unique methodology developed to conduct analysis, elaborate on findings, draw conclusions about the global body of work on intergenerational equity and make recommendations for improving the effectiveness of governance

mechanisms to implement this concept. The following sections in the introduction will elaborate on the concept of intergenerational equity to serve as the first step towards operationalizing it so that it can be placed under study.

1.1 Background of Intergenerational Equity

1.1.1 Theoretical Foundations

The concept of intergenerational equity was first established within the field of investment and debt and is not one that is unique to the climate change landscape. The first uses of it were in the 1960's by economist James Tobin in his idea that investment returns should be divided equally between benefits for current and future generations (Nordhaus & Tobin, 1972; Tobin, 1974). Embedded within this economic concept is the same philosophical foundation that is embedded within the principle of sustainable development: that planning for the future, or future generations, is an imperative of the present. Adding nuance to Tobin's economic perspective, around the same time John Rawls was exploring similar theories of distribution in society, but with a lens of justice and fairness rather than economics. In his "A Theory of Justice", he explains what is now a normative principle of distributive justice, the idea that there should be a socially just distribution of goods in society (Rawls, 1970). These two foundations combined manifested in the idea of just distribution between generations and created the foundation that is embedded within the principle of sustainable development and later intergenerational equity.

The work of Edith Brown Weiss was the first to fundamentally redefine these concepts more concretely in environmental terms, rather than financial or justice terms (Weiss, 1989). The concept of intergenerational equity is the idea that all humans "hold the natural and cultural environment of the Earth in common both with other members of the present generation and with other generations, past and future" and have a responsibility to conserve for past and future generations the "options" and diversity of natural resources, "access" and rights to cultural and environmental resources, and the "quality" of these resources (Weiss, 1989, p 8-38). Following this work, the theory has been firmly rooted in the sustainable development landscape and the use of the term now has an inherent implication that it relates to environmental sustainability (Summers & Smith, 2014).

Weiss's work is considered the foundation of the concept of intergenerational equity because she wove together an argument for intergenerational equity that included three different fields in a way that has remained fundamental almost 30 years later. Weiss explained a natural science problem through a legal framework of justice and human rights with a moral and ethical imperative. Weiss created this foundation as she was able to link the ethics discourse of intergenerational equity or justice to the practice of environmental conservation in a way that had not been done before which enabled it to be considered within the context of global justice and governance (Collins, 2007). The combination of her legal and environmental expertise gave unprecedented credibility to the moral imperative of her argument, which paved the way for developments like Stephen Gardiner's discussion of the "perfect moral storm" (Gardiner, 2011, p3).

1.1.2 Governance Foundations

The first mention of the concept of intergenerational equity in the context of international governance is in the United Nations Charter itself, where it states that one of the founding purposes of the organization is "to save succeeding generations from the scourge of war" (United Nations, 1945). On the national level, around 40 national constitutions, charters or constitutional

amendments mention similar principles as foundations for their national governments in the five decades following drafting of the UN Charter (Tremmel, 2006).

However, more specific to this field, around the same time as Weiss's work, the concept was also beginning to be included into UN discussions about sustainable development and environmental degradation. The first substantial reference to the concept, although without using the language of intergenerational equity explicitly, was in the Stockholm Declaration from the United Nations Conference on the Human Environment in 1972 (United Nations, 1972). The concept of intergenerational equity is most frequently traced back to the World Commission on Environment and Development's definition of sustainable development in 'Our Common Future': "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on the Environment and Development, 1987). The definition in this seminal text on sustainable development substantially links sustainable development to the concept of intergenerational equity as defined by Weiss. Following this the 1992 Earth Summit included reference to the concept in Principle 3 of the Rio Declaration, while "Agenda 21" and the Rio +20 Conference on Sustainable Development concluded with recommendations for how intergenerational equity might be operationalized on an international level through an "Ombudsperson for Future Generations" (Göpel, 2011; Handl, 2012; Pearce, 2012). In addition, there are 27 other UN agreements or declarations that make reference to intergenerational equity, which have been largely influenced by the way that Weiss (1989) defined the concept in terms of biodiversity, nuclear and climate change developments (United Nations Secretary-General, 2013). There are some claims that this volume of recognition constitutes the principle's maturity into an international norm. However, in spite of all of these examples, none of the references involve any kind of operative instrument for legal enforcement (Karlsson-Vinkhuyzen & Vihma, 2009; United Nations Secretary-General, 2013).

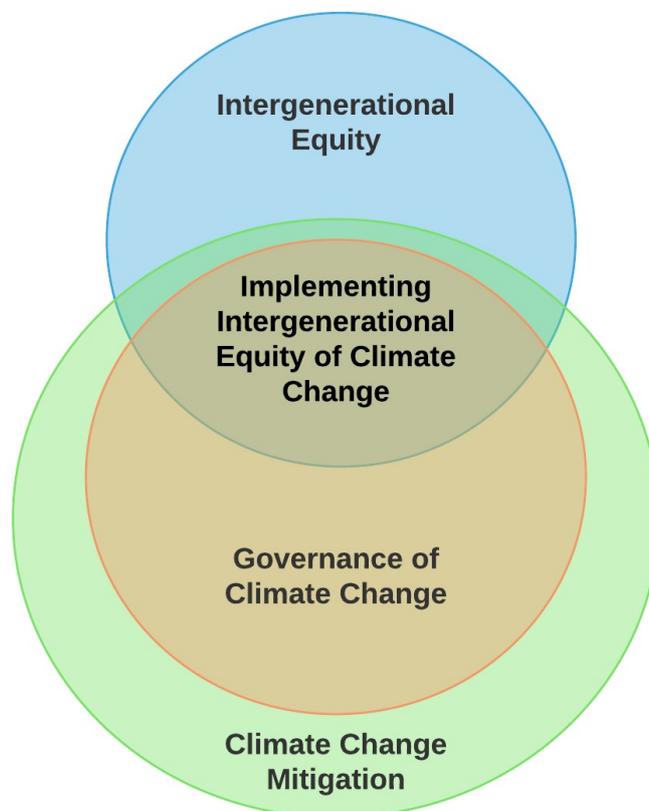
The integration of intergenerational equity into climate governance has depended significantly on the development of the international norm and principle of sustainable development and the links in definitions between the two concepts. The concept of sustainable development benefits from increasing widespread political support from the foundational 'Our Common Future' up to the present Sustainable Development Goals. This has enabled concerns for future generations to become increasingly institutionalized (World Commission on the Environment and Development, 1987).

Weiss argued that "almost every policy decision of government and business affects the composition of future generations... [we] need to explore the possibility of scrutinizing decisions from the point of view of their impact on future generations" (Weiss, 1992, p 24-25). Over the past four decades, the concept of intergenerational equity has become rooted in the climate governance landscape. Climate governance refers to the governance mechanisms that manage, steer and guide work in the field of climate change, especially climate change mitigation, and takes place on many different levels and involving a range of different actors, approaches and mechanisms (Biermann, 2007, 2014; Driessen et al, 2012). Intergenerational equity in climate governance is a concept pursued through many different types of governance mechanisms and as Weiss suggests, governance has not yet been scrutinized through the lens of intergenerational equity. Thus, this thesis is the first piece of research which attempts to do this.

1.1.3 Present Context

Following the conceptual development, the concept of intergenerational equity has developed in three different directions (See Figure 1. Theoretical framework for theoretical background of implementing intergenerational equity). First, it has been applied to the field of climate change mitigation and offers a new lens through which to gain understanding about the challenge of climate change. It is a core concept underlining the increasing work on adaptation to climate change. Climate change mitigation refers to the attempts by the public sector, private sector, international organizations, NGO's, civil society and individuals to “stabilize greenhouse gas concentrations in the atmosphere at a level that will prevent dangerous human interference with the climate system” (UNFCCC, 2015). Second, as the UN began to form new environment programs and other governmental bodies became aware of this increasing priority, it was included in governing documents, strategies, policies, constitutions and new institutions, otherwise known as governance. Intergenerational equity pursued through effective climate governance works towards the end goal of climate change mitigation. Finally, intergenerational equity has been embraced by youth movements and applied in an activism context. In relation to climate change the language of ‘climate justice’ is often used, but other fields which advocate for greater youth or future generations participation, rights and empowerment also contributed to the development of this concept. Therefore, the theoretical foundation for the implementation of intergenerational equity is located at the intersection of these three concepts: intergenerational equity, climate change mitigation, and climate governance (Figure 1).

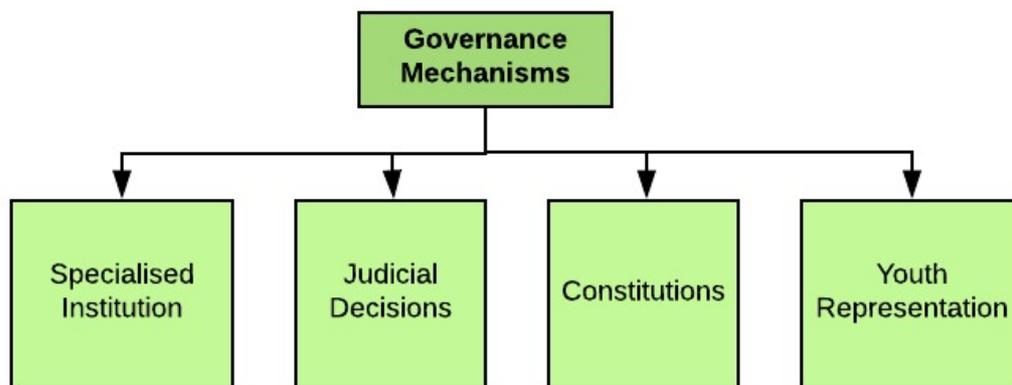
Figure 1. Theoretical framework for theoretical background of implementing intergenerational equity



The most relevant recent developments in this field are legal, both in the international arena and at the national level. In the international arena the Paris Agreement explicitly mentioned the concept in the final text, but it was also discussed and contested in the formal negotiation space and the sidelines of COP21, as well as COP22 and COP23 (UNFCCC, 2015). The concept of intergenerational equity is argued to have influenced the decision to include a more ambitious temperature goal of 1.5 degrees Celsius (United Nations Joint Framework Initiative on Children Youth and Climate Change, n.d., 2010). In the context of climate change negotiations and agreements, the topic of intergenerational equity is discussed with relation to ambition, scale and pace of climate change mitigation and is often used as a justification for greater urgency.

At a national level, several pioneering court cases have taken place in the past decade that seek to enforce environmental rights of young people and future generations, which contribute to developing the concept of intergenerational equity from a concept to a national and international legal norm which can be used to enhance mitigation efforts and strengthen climate governance. In addition to these recent court cases, there are 134 countries which have a range of governance mechanisms through which intergenerational equity can be put into practice, these include: Judiciary Decisions, Constitutions, Specialized Institutions or Agencies and Youth Representation mechanisms. Within these mechanisms, there are varying approaches, mechanisms, techniques and levels of effectiveness and significance. These examples include the governance mechanisms shown in Figure 2.

Figure 2. Categorization of Governance Mechanisms for Intergenerational Equity



This categorization is further elaborated on in Section 3.2.

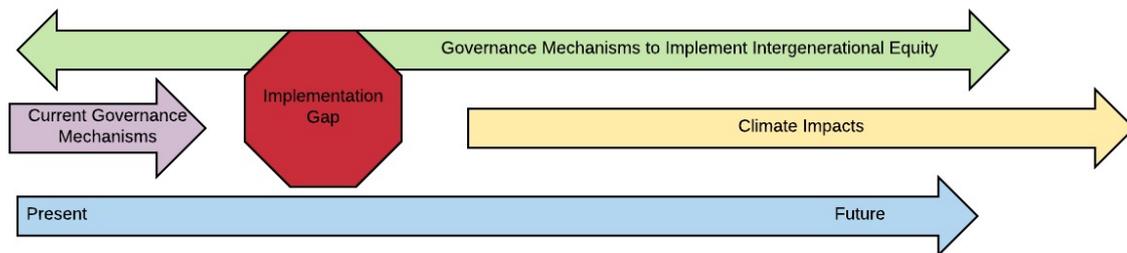
1.2 Problem Definition

In spite of decades of work on climate change and a multiplicity of climate governance mechanisms, there remains an “implementation deficit” (Biermann, 2014, p 57). Because of this it is widely considered that existing governance mechanisms are not sufficient for tackling climate change effectively and that change is needed (Biermann, 2014; Jávora & Rácz, 2006). Pearce (2012) points out that many of our current governance mechanisms are manifestations of the fact that “we have yet to fully grasp this original meaning of sustainable development, in its truest form, to emphasize our commitment to equity with future generations” (p 2). While the concept of sustainable development is often defined in terms which imply concepts of intergenerational equity, its implementation in practice loses connection to this. This problem is that the temporal aspect of governance mechanisms is constrained by the political context in which they operate. Institutional

designs and norms make it such that “democracy is partial toward the present” (Thompson, 2010, p 17).

Knutti & Rogelji (2015) argue that “humans have difficulties grasping risks that they have never been exposed to, and that lie far in the future.... Science cannot determine what is right from an ethics point of view. If it could, then there would be no room for politics and democracy” (p 371). Therefore, the effectiveness of climate governance mechanisms are hindered in their contribution to climate change mitigation because of their political context and the short-termism and neglect for future generations the is often present (Gonzales-Ricoy & Gosseries, 2016). Consequently, the challenge is to design effective governance institutions which implement the concept of intergenerational equity to bridge the “implementation deficit” of climate change mitigation: “What are needed now are strategies for earth system governance that can generate a new level of effectiveness, legitimacy and overall performance. World politics in the Anthropocene cannot be business as usual” (Biermann, 2014, p 11). This research explores the way that intergenerational equity can contribute to this “new level of effectiveness” to overcome this implementation gap, as illustrated below.

Figure 3. Climate Governance Implementation Gap



In the broadest sense, the core problem that this research seeks to address is the urgency and scale of climate change mitigation and governance, however, the scope has been narrowed to look specifically at one possible solution: the way that implementation of intergenerational equity can improve governance mechanisms to more effectively address climate change. The problem then can be divided further into three dimensions: the tension between theory and practice of the concept of intergenerational equity; the tension between the trends of localization and internationalization of action on climate change; and finally, the challenge of implementing effective climate governance mechanisms.

1.2.1 Theory versus Practice

The first, and most important problem, is the extent to which the field remains a theoretical topic rather than focused on practice and implementation. Weiss highlighted in 1989: “the translation of the expressed concerns for future generations into normative obligations that relate the present to the future to protect future generations still needs to be done” (Weiss, 1989). While it has become a more recognized international norm, there is still a significant gap in transforming “concern” into “obligations” (Weiss, 1989). Embedding and operationalizing this principle effectively is incredibly problematic because its implementation requires altruism, foresight, and sacrifice that the current global social, political and economic systems don’t facilitate (Thompson, 2010). In addition, while the field of climate change mitigation tends to be measured in quantitative data like carbon emissions reductions, a different unit of analysis is needed for understanding issues such as a governance and justice (S. Gardiner, 2010). The implementation of this concept is also at risk of being undermined by

its normative foundations - it assumes the existence of future generations, it assumes normative concepts of distributional justice, it is predicated on current climate science and modelling, and it assumes sustainable development as a foundational principle (Gosseries, 2008).

In spite of all of these challenges, some attempts to propose both international and national solutions were made around the Rio+20 Conference. At this time the understanding was that there were few examples of operationalization of the theory; however this research has identified many more examples, raising the question of whether the implementation challenge is real or just a perception of the academic community (Göpel, 2011; Pearce, 2012; Marcel Szabó, 2015; United Nations Secretary-General, 2013).

A recent significant contribution to the knowledge development on this concept, *Institutions for Future Generations*, identifies categories of mechanisms which align with those in this research, however does not look into any of these to understand their effects, but instead to understand their concepts and principles (Gonzalez-Ricoy & Gosseries, 2016). The substantial body of work which continues to discuss the concept in theoretical terms contributes to undermining the legitimacy and success of translating the theory to practice as many examples go unrecognized in international, regional and domestic politics as well as academic and civil society arenas.

1.2.2 National versus International

Second, while climate change remains a global issue, the trend towards increasing localization of action and self-governance must be recognized in the operationalization of any solutions. This trend is seen in both governance and mitigation literature on climate change and in the current international climate change regime's commitment to a 'bottom-up' approach (Figueres, 2016). Thus far focus has remained on the developments of intergenerational equity on the international level, with local implementation being over-looked. One of the only studies conducted on national-level instruments points out that "due to the lack of effective enforcement mechanisms under international law, the efforts of the national institutions in promoting sustainability and implementing international norms on the domestic level gain outstanding significance" (Marcel Szabó, 2015, p18). The focus on the international level neglects both the progress made at a national level, as demonstrated by this research, as well as the potential for action at this level of governance.

1.2.3 Effective Climate Governance

Over the past couple of decades there has been a proliferation of possible governance mechanisms through which to find solutions, however the problem remains still largely unsolved as global emissions continue to rise (Driessen et al., 2012). It has been argued that "effective earth system governance will be necessarily transformative," and therefore it is worth considering whether it is now time to look beyond the scope and scale of the institutions which have become standard (Biermann, 2014, p 27). Effective governance can be defined as: "changes in social behavior due to the influence of the governance process in question, as well as related positive environmental parameters" (Biermann, 2014, p 10). However, a core challenge to effective climate governance is that it means governance mechanisms in the present need to be designed based on the impacts that they have on a future situation. It may be that in order to have equity for future generations we need "future ethics" (Védegylet - Protect the Future!, 2006, p 36).

With relation to intergenerational equity, it is often claimed that there is "no comprehensive legal doctrine" or "international instrument" for implementation (Anstee-Wedderburn, 2014). Therefore,

national level governance mechanisms play a crucial role. While there is a growing sentiment that the concept is relevant and imperative, the institutions that address it are limited: “we unavoidably bear the responsibility to include elements of intergenerational justice in decision-making... [and] legal-institutional solutions are able to appropriately carry out the representation of long-term interests” (Védegylet - Protect the Future!, 2006, p 6-7). The effectiveness of intergenerational equity implementation on a national level is a multi-faceted problem, therefore a holistic analysis addressing all of these aspects of the problem is necessary in order to begin to identify a set of legal principles, substantive goals, organizational strategies and policy instruments that can seek to address the problem comprehensively.

Finally, effective climate governance is inherently linked to effective governance systems more generally. A system which cannot move beyond a short-term focus around climate change, is also likely to view other long-term challenges, such as government debt, through a short-term lens as well.

1.3 Research Design

1.3.1 Research Objective

The objective of this research is to identify how the concept of intergenerational equity has been implemented at a national level, analyze its effects and propose solutions for improvement and reform for both national governments and international organizations. It does this through collating and categorizing implementation mechanisms and measuring their effects and effectiveness through an analytical framework, thus combining both analytical and normative analysis of the problem.

This research aims to improve the climate governance and mitigation context through a problem-oriented and practice-oriented oriented approach to producing a global review of progress on implementing intergenerational equity on a national level.

1.3.2 Research Questions

The question that has been answered through this research is:

How has the concept of intergenerational equity been implemented, what are the effects, and what can be learned from this to take the next steps towards more effective governance for mitigating climate change?

This question will be enhanced through the following sub-questions:

- 1) Where and how has the concept of intergenerational equity been implemented?
- 2) What are the effects of from implementation?
- 3) What attributes caused effects to result from implementation of the mechanisms?
- 4) What attributes contributed to the success, failure and effectiveness of the mechanisms?
- 5) How can national and international institutions reform to implement this concept?

1.3.3 Scientific Relevance and Knowledge Gap

Although this is a growing field of research and practical implementation, there has not yet been a scientific undertaking that seeks to provide a global picture of the progress on implementing intergenerational equity in climate governance. The concept of intergenerational equity has evolved through three separate fields and thus far have remained largely separate endeavors. Solutions for addressing intergenerational equity will need to bring together these bodies of work in order to incorporate governance strategies, mitigation practicalities, and concepts of justice and ethics.

The body of literature surrounding the topic of **intergenerational equity** has been focused mainly on theoretical developments (as discussed in 2.2.1) and any literature around implementation of practice is limited in volume and scope. Current academic literature on intergenerational equity tends to fit either into the context of international governance, environmental law or economic analysis (Beckman & Page, 2008). This research has been limited to the study of a few specific national government and international institution examples which use a specific form of institutional structure, a form of ombudsperson, commission or advisory body or to theoretical discussions (Anstee-Wedderburn, 2014; Caney, 2014; Collins, 2007; Göpel, 2011; Marcel Szabó, 2015; United Nations Secretary-General, 2013). In all of these types of research, focus remains on one type of governance mechanism, and not interactions between mechanisms within a system and even in these cases none of the studies are comprehensive enough to include all of a certain type of mechanism. In addition, many analyses have been conducted by individuals who were a part of running, managing or designing the mechanism under study. Therefore, not only does this research provide a more objective analysis of these institutions, it also expands perspectives and recognizes complexities of governance systems and the role of contextual factors as it investigates many more categories and examples than have previously been studied.

Ultimately the application of the concept of intergenerational equity would be implemented through governance mechanisms which relate to **climate governance** and therefore a significant amount of the literature around this issue relates to how to implement intergenerational equity in the national governance and government context (Gardiner, 2010; Wood, 1996; Weiss, 1989; Thompson, 2010). In spite of an increasing discourse around this topic, there have been no attempts to understand all of the possible governance mechanisms to implement intergenerational equity and their effectiveness and appropriateness in a non-theoretical way. Where there is relevant literature, thus far on it has focused on solutions within the international governance structures. This research will seek to extend this to the national context.

The academic development of the topic of **climate change mitigation** has a diverse foundation and is an incredibly large field which is an umbrella under which there are a huge range of more nuanced and detailed subtopics on which research is focused. The concept of intergenerational equity is not often included under this umbrella because of its theoretical nature. This research seeks to demonstrate that implementation of intergenerational equity can be seen as a way to pursue climate change mitigation by focusing on the impact and effectiveness of implementation of governance measures. Findings and recommendations in this context can be seen as both contributing to work on climate change mitigation as well as ethical and governance debates (Caney, 2014; S. M. Gardiner, 2006; Knutti & Rogelj, 2015; Weiss, 1989).

More generally, this research also seeks to contribute to the debate about whether or not equity can be operationalized and studied empirically in relation to climate change and environmental governance (Anstee-Wedderburn, 2014; Klinsky et al., 2016). However, the breadth of examples studied here clearly shows that the practice and implementation of this principle has moved at a pace that the academic analysis of it has not kept up with, making this particularly research both timely and necessary contribution to this broader debate.

1.3.4 Societal Relevance

The problem of climate change has been characterized as being “wicked” because the real impacts of the problem are too far away to comprehend individually or by society at large (S. Gardiner, 2011; Marshall, 2014). This is problematic because of the urgency of the problem - according to current estimates, individuals that are alive now could experience a 2 degree warmer world in their lifetimes (Intergovernmental Panel on Climate Change, 2014). Consequently, generations alive now will face a failure of conservation of options, conservation of quality and conservation of access by previous generations, and intergenerational inequity (Weiss, 1989). Seen in this context, solutions to implement intergenerational equity are not just about solving a theoretical ethical problem, but they are a way to contribute to climate change mitigation through more effective governance systems.

While an academic debate continues about whether equity or intergenerational equity can be studied, progress in practice continues. The societal need does not wait for academic understanding and climate change mitigation cannot be done in retrospect; therefore, this research is not just relevant, it is timely and even urgent. Implementing intergenerational equity at a national level is ultimately about identifying effective governance systems and interventions to allow for just and equitable solutions to climate change.

In this way, this research seeks to connect theory and practice in a field where this has not yet taken place in a significant way. It seeks to move the concept of intergenerational equity out of the ‘ivory tower’ and into parliaments, councils, and boardrooms by conducting analysis that is relevant for practitioners as well as for academic discussions about equity and effective governance. It also provides a framework and overview for further in-depth research into particular cases or political dynamics to help solve more specific localized issues. This is both an aspect of scientific relevance and societal relevance.

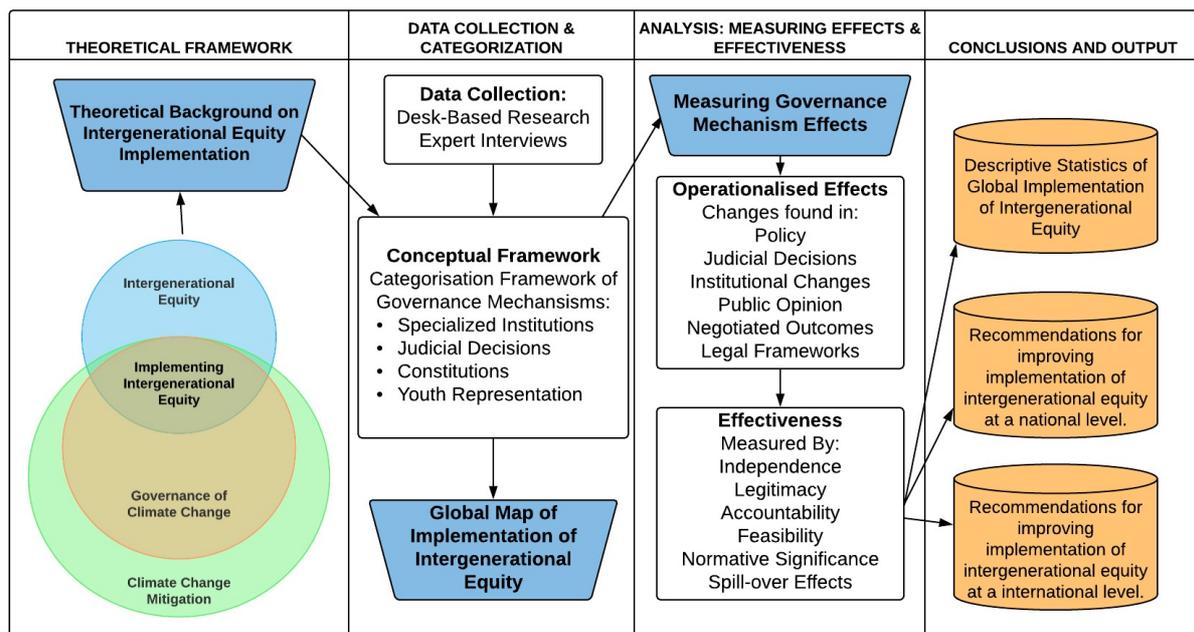
1.3.5 Research Output

The intended research outputs include: new categorizations for mechanisms for implementing intergenerational equity; descriptive statistics about the global picture of this work; a proposal for implementation at a national level; and finally progress in the scientific field. It is hoped that this research can also contribute to the discussion about studying equity in relation to climate change and global governance and the need to move beyond questioning the validity of this research to focusing on solutions to the problem.

2 Research Framework

This section will elaborate on the research framework used to identify where and how intergenerational equity is being implemented and conduct analysis. The four steps of the research framework are demonstrated in Figure 4, which elaborates on process that was followed. They include: conceptual development and theoretical background; categorization through the conceptual framework; analysis through an analytical framework; and conclusions and recommendations.

Figure 4. Research Framework

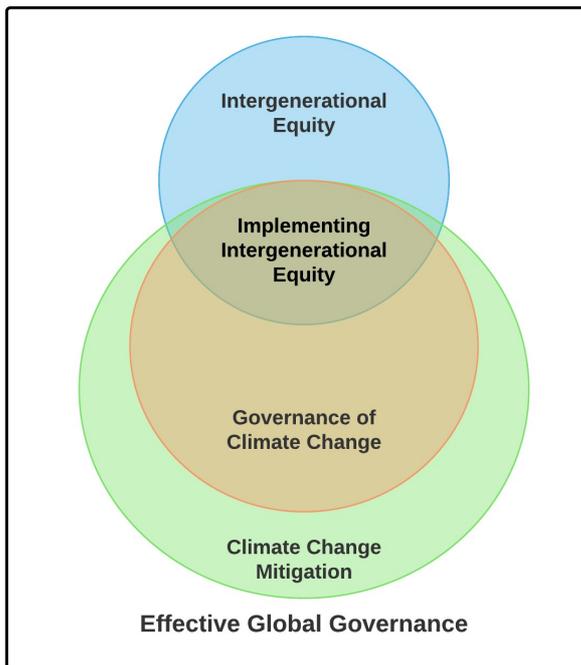


The unit of analysis was the mechanisms through which intergenerational equity is implemented at a national level. This research categorized different types of implementation mechanisms for intergenerational equity, then identified the effects, before analyzing their effectiveness through the analytical framework elaborated on in Section 2.3. This research used both analytical and normative perspectives, by first applying analytical perspective to examine the processes and outcomes of the institutions under study, and then asking in the final stage of the research what institutions should do to meet the needs of the problem at hand (Biermann, 2014). Three frameworks were used throughout the process which will be elaborated on in the following sections: a theoretical framework, which contextualized the research; a conceptual framework, which enabled the categorization; and the analytical framework which allowed for identification of effects and effectiveness.

2.1 Theoretical Framework

Implementation of intergenerational equity of climate change can be found at the cross-section of three different fields: climate change mitigation, governance of climate change, and the principle of intergenerational equity. The research is mapping the implementation of the concept of intergenerational equity in governance mechanisms that pursue and enable effective climate change mitigation. The development of this theoretical framework has been further elaborated on in Section 1.2.

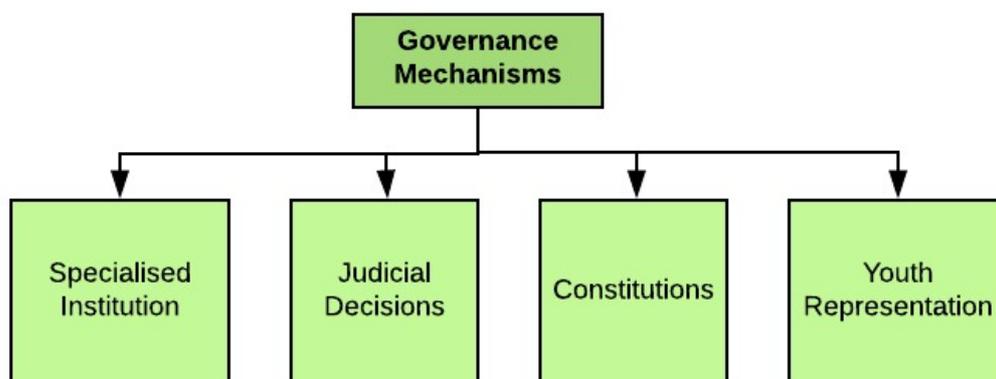
Figure 5. Theoretical framework for theoretical background of implementing intergenerational equity



2.2 Conceptual Framework

The conceptual framework used for this research is one that delineates different types of implementation mechanisms for intergenerational equity that are currently being applied in the governance systems at a national level. Figure 6 shows this delineation.

Figure 6. Categorization of Governance Mechanisms for Intergenerational Equity



This framework is unique because it seeks to identify and compare multiple governance mechanisms to provide a comprehensive analysis with an aim at improving climate governance, climate change mitigation and global governance overall rather than just focusing on one type of institution or mechanism. The following sections first establish what these mechanisms are and why they have been included in this research. A mechanism in this research refers to "measures to safeguard the interests of future generations through institutions or written law" (Jörg Tremmel, 2006, p 189). The majority of the mechanisms are implemented by institutions present in the governance system.

Institutions in this context are: “clusters of rights, rules, and decision-making procedures that give rise to social practices, assign roles to participants in these practices and govern interactions among players of these roles” (Biermann, 2014, p 24). The categories of mechanisms are based on a review of the literature on climate governance and intergenerational equity theory. Specifically, in one of the most recent publications, Gonzalez-Ricoy & Gosseries (2016) outline a clear categorization of mechanisms which includes those used in this research. Table 2 outlines in summary the definitions of each of these mechanisms elaborated on below.

2.2.1 Specialized Institutions

Specialized Institutions refers to institutions which are designed specifically for the protection of intergenerational equity. Examples of this included here are: Ombudsperson or office, or commissions, committees or councils. This category seeks to differentiate specialized institutions, which have a specific remit on intergenerational equity, from more general governance institutions.

This type of mechanism is the most studied of all those listed here and is also the most frequently proposed solution (Göpel, 2011; Göpel & Arhelger, 2010; Pearce, 2012; United Nations Secretary-General, 2013; Weiss, 1992). However, as this list of categories and the length of this study suggests, this does not comprise the majority of examples of implementation of intergenerational equity and it is time to look beyond this type of mechanism.

An Ombudsperson institution is the most commonly proposed institutional example. It is defined in its origin as an ‘entrusted person’, the International Bar Association calls it “independent, high-level public official, who is responsible to the Legislature or Parliament who receives complaints... acts on own motion, and who has the power to investigate, recommend corrective action, and issue reports” (Hollis, 2010, p 49). The role acts as an important mediator in many cases and therefore is a markedly different form of governance from many others (Hollis, 2010, p52). Where other institutions might represent or advocate for a group or issue, an Ombudsperson seeks the "improvement of the performance of the public administration and the enhancement of government accountability to the public" (Reif, 2004, p2).

The concept of an Ombudsperson has also been manifested in other institutions with slightly different names but that seek the same objectives and function in a similar way: for example a Parliamentary Commissioner, or High Commissioner can often fulfil the role and responsibility of an Ombudsperson just with another title (Reif, 2004, p12). In addition, traditionally an Ombudsperson works generally across a whole government, however, this research has only examined cases where their specific remit refers to future generations and climate change: Reif (2004) refers to this as ‘Public Sector Ombudsman with Limited Subject-Matter Jurisdiction’ (p 34).

Finally, institutions in this category can be either “future-focussed”, designed specifically about the future, or “future-beneficial”, related in some way to the future (Gonzalez-Ricoy & Gosseries, 2016, p 7). For the sake of narrowing and focussing the scope of this research, only “future-focussed”, subject specific institutions have been included.

2.2.2 Constitutions

This research will study constitutions where the concept of intergenerational equity as it relates to climate change has been embedded into the country’s legal foundational text. There tends to be three types of clauses that are included that make reference to this: general clauses, ecological clauses and financial clauses; this research will look specifically at those which relate to climate change and so only the first two (Jörg Tremmel, 2006, p 191). Further typologies of clauses have

been developed as a part of this process to differentiate between the enforceability of clauses and in order to discuss their effectiveness. This can be found in Appendix 10.7.

Constitutions have been included as a category of study, and national legislature and regulation has been seen as an effect in this research because constitutions in legal stature they are superior to other laws, and also because they are procedurally more difficult to change (Ekeli, 2007). Therefore, the governance mechanism itself represents a more durable foundation to the state than other environmental regulation.

Much of the literature around constitutional clauses points to the fact that the strongest point of the reference is when it is tested in court (Collins, 2007; Tremmel, 2006). Court cases that deal with enforcing constitutional clauses will be categorized as Judiciary Decisions. In addition, constitutions which are not currently active have not been considered here, and texts have been analyzed in their most recent version and therefore including any amendments or changes that have been ratified since initial drafting. This category is biased towards states with codified constitutions as analysis has been conducted by reviewing texts.

2.2.3 Judiciary Decisions

Decisions made in sub-national, national or international courts which are explicitly based on the concept of intergenerational of climate change are included in this research. Examples of this can be found at state level, national level or through the International Court of Justice. The key aspect identifying a case to fits this categorization is that the outcome of the case explicitly discusses the relevance of intergenerational equity to the case.

Many scholars argue that the concept is not yet a substantive legal principle, but instead decisions made in favor of intergenerational equity are founded on other established legal principles, namely: “sustainable development, the common heritage of humankind, the principle of custodianship or stewardship, the precautionary principle, and the principle of common but differentiated responsibilities”(Collins, 2007, p124-125). Therefore in this research it is referred to as a “concept” which “informs and influences the development and interpretation” rather than a principle (Ellis, 2008). The extent to which the concept has been integrated into legal texts and decisions does, however, demonstrate movement towards it being considered customary law (Collins, 2007).

Anstee-Wedderburn (2014) concisely argued “No comprehensive international legal doctrine of intergenerational equity exists and no binding international instrument has sought to grant to future generations enforceable rights or impose enforceable intergenerational obligations”(p 39). However, this conclusion is becoming less relevant because whether the concept of intergenerational equity is a national or international principle in its own right is less relevant than the fact that there have been judicial decisions which uphold this value. The extent to which the concept has been integrated into legal texts and decisions demonstrate movement towards it being considered customary law (Benjamin et al., 2015; Collins, 2007). In addition, while on an international level there is not a legal doctrine, there are a significant number of examples in the national context (Hunter, 2011). Therefore, court cases which implement it are governance mechanisms relevant to be included here. Cases included in this research are those which explicitly relate to climate change and intergenerational equity in their final rulings.

2.2.4 Youth Representation

Examples where youth, as a future generations or intergenerational equity representative, are engaged with government, either by representation within government, or representing the

government externally (and/or internationally) are included. In this type of mechanism young people act as a kind of proxy to represent the interests of future generations. The concept of future generations within sustainable development and climate change discourses is used interchangeably to refer to both younger generations (children and young people) and generations that are not yet born. This research will refer to future generations as both younger generations and future generations as this concept is too interlinked in the political and social discourse on this topic to differentiate between the two (United Nations, 2013). The UN itself, along with many other NGO's and national governments, operationalizes "intergenerational issues" as "youth and intergenerational partnerships" (United Nations Joint Framework Initiative on Children Youth and Climate Change, n.d.). Because of this, governance mechanisms that involve youth, as a proxy for future generations and explicitly to implement intergenerational equity, have been included in this study. This definition, however, excludes activity that focusses only on youth engagement, empowerment or representation without recognition of the broader principle of intergenerational equity.

Table 1. Table of Short Category Definitions

Category	Definition
Specialized Institution	An independent, high-level public official, institution or office which is responsible for improvement of the performance of the administration and enhancement accountability to the public related to intergenerational equity. Often it receives complaints, has the power to investigate, recommend corrective action, and issue reports, but may also have other specific powers.
Judiciary or legal decisions	A court case in state (sub-national) national or international courts which takes a decision based on the legal principle or substantive concept of intergenerational equity.
Constitutions	National constitutions where the concept of intergenerational equity has been embedded with relation to climate change.
Youth representation	A youth representative who acts as a proxy for future generations, who is engaged with government, either by representation within government, or representing the government externally and/or internationally.

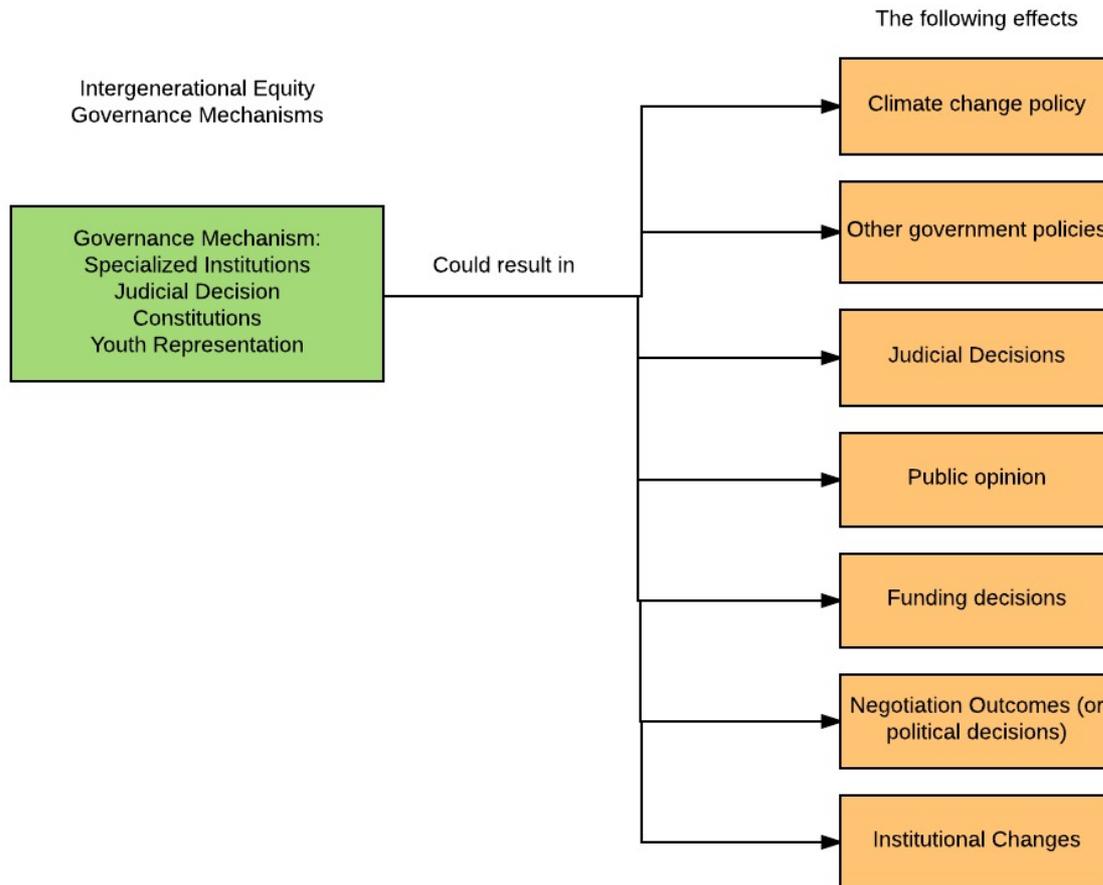
2.3 Analytical Framework

Each individual governance mechanism is the unit of analysis in this research. The effects of the mechanism are the dependent variable, or the result of the mechanism. The impact of the governance mechanisms discussed in the section above in terms of their specific categories can be assessed through two ways: first, by understanding the effect of each specific mechanism (Figure 7); and second, by using the analytical framework in Table 3 to understand the characteristics or factors (independent variables) of the mechanism that make it effective.

The effect of a mechanism can be understood as the changes resulting from the influence of governance process in question (Biermann, 2014; Biermann & Gupta, 2011; R. B. Mitchell, 2008; Underdal, 2002b). The effects of the mechanisms under study can be seen in changes in climate

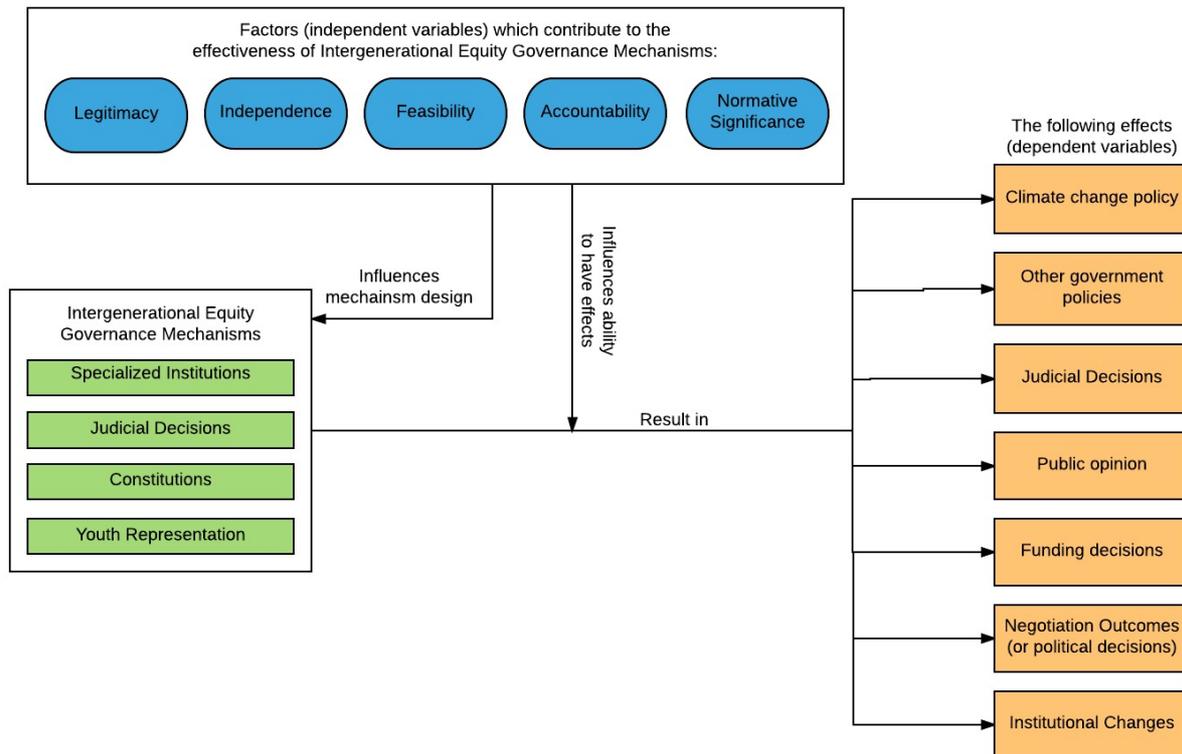
change policy or government policy more generally, judicial decisions or court cases, changes in public opinion on the topic, an increase in funding allocations, and an impact on negotiated outcomes in the international or national political arena. These are outlined in Figure 7.

Figure 7. Identifying the effects of mechanisms for implementing intergenerational equity



The overarching question here is whether the effects of implementing intergenerational equity contribute to better climate change governance. The effects shown in Figure 7 are ways in which climate governance and climate change mitigation could be improved, however an analysis of each of these individually is outside of the scope of this research. To understand the effects and effectiveness of each mechanism, a unique analytical framework has been developed. The analytical framework used here outlines the independent variables which contribute to effectiveness of the governance mechanisms being studied and their ability to implement intergenerational equity. These variables, in blue in Figure 8, explain some of the contributing factors to a mechanism’s ability to have effects. These factors can relate both to the design of the mechanism or the way that it works in a real-world context, as demonstrated in Figure 8.

Figure 8. Independent and Dependent Variable of Governance Mechanisms Studied



The framework has been developed by using three sets of literature: first, literature assessing the effectiveness of international organizations and law on environmental outcomes; second, literature analyzing institutions; and third literature assessing the effectiveness of voluntary environmental programs. Three streams of literatures have been used to develop this framework as none of them individual were considered holistic enough to include factors relevant to all of the categories of implementation mechanisms. The diversity of mechanisms requires an assessment technique that integrates different fields and approaches of governance.

The characteristics in this framework are elaborated as follows:

2.3.1 Independence

A governance mechanism can be seen as independent if it is not aligned, governed or managed by another body or authority and it is legally and financially independent (Göpel, 2011). Independence for implementing intergenerational equity would mean both financial and political independence to nurture a working environment where unbiased advice and positions are developed (Nesbit & Illes, 2015). Institutions that are not independent are possible, but they are less effective (Göpel, 2011; Hollis, 2010; Nesbit & Illes, 2015). A key indicator will be that independence is explicitly established in founding or guiding documents.

2.3.2 Legitimacy

A governance mechanism is legitimate if it has acceptance and justification of its authority and if it receives support in operational and authoritative activity from citizens, government and private sector (Dellmuth & Tallberg, 2014). Acceptance of a governance mechanism is “the degree to which,

rules or institutions are accepted by a community as being authoritative” and is inherently related to the acceptance of the reason for the rules or mechanisms (Biermann, 2014, p124). This aspect of legitimacy is closely linked to a mechanism’s normative significance (see 1.3.7). Factors that might also contribute to legitimacy include levels of participation and inclusiveness and the discursive quality of a mechanism (Dingwerth & Pattberg, 2009; Newig & Fritsch, 2009).

Linked to the concept of legitimacy is the idea of authority, “legitimacy and capacity to exercise power” (Biermann, 2014, p48). With respect to this particular type of mechanism, this would mean that the mechanism has enough power and influence to intervene in decision-making, to put a policy or action on hold, or facilitate enforcement, such as initiating judicial intervention (Göpel, 2011; Pearce, 2012). Two key indicators for this would be either explicit statement of such powers in founding or guiding documents or examples of demonstrations of power, including decisions made, policy change, etc.

Legitimacy can be broken down into two aspects: input or internal (procedural characteristics and acceptance by participants of an institution), output or external (acceptance of the rules because of their ability to solve problems and perceived effectiveness externally) (Biermann, 2014). Indicators for assessing this can be found in procedural documentation of the institution; public discourses about the institution; results, reports, decisions, statements or any other kind of output; and through the opinions of members of the institution.

2.3.3 Feasibility

A governance mechanism is feasible if it is possible within the social, political and economic context as well as in relation to the particular problem structure (Young, 1994). The concept of feasibility draws on the ideas of Underdal on the role of the problem structure and problem solving capacity in institutional effectiveness (R. Mitchell, 2006; Underdal, 2002a, 2002b). Fundamentally, these two concepts are founded on the idea that context matters, and in the case of this research, mechanisms can only be assessed as feasible within their own social, political and economic context. Feasibility can also relate to concerns of sufficient resources, the implementability within the political system or institutional framework, the general political or economic stability, or the type of governance system currently functioning.

An aspect of feasibility could also be a mechanism’s resilience, as in whether it has the ability to continue to exist over time, without losing its structural and functional integrity through periods of uncertainty and disturbances (McGinnis, 2011; Ostrom, 2005). An institution that cannot continue to exist, especially in the context of the long temporal scale of the concept intergenerational equity, is problematic and unfeasible.

2.3.4 Accountability

A governance mechanism is accountable if it has a sense of responsibility to the normative principles it exists to serve, the institutional structure it sits within, and to society more generally.

Accountability can be studied through four key aspects: its normative position on the issue; the notion of responsibility, manifested in relationship between accountable and those holding to account; the decision-making of the mechanism; and transparency and monitoring of a mechanism (Biermann, 2014; Pearce, 2012). Each of the aspects outlined here relate to the behavior of the institution and/or the people in it (Rasche, 2009). These key aspects can be found in public positions, public discourse by and with the mechanism, relationships between actors, and reporting and monitoring frameworks.

2.3.5 Normative Significance

A governance mechanism has normative significance if it upholds the principles for which it exists. This factor stems from literature on voluntary environmental programs and their assessment frameworks. In this field a program is evaluated on the values it pursues (Paton, 2000). For a topic such as intergenerational equity, which has a normative foundation, that it is something to be protected or sought after, just as voluntary environmental programs' normative foundation is that environmental degradation should be prevented, the connection to the normative foundation is significant.

Table 2. Analytical Framework

Factor	Definition	Question	Literature	Indicator	Data Source
Independence	Not aligned, governed or managed by another body or authority. Legally and financially independent.	Does the mechanism have explicit political and financial independence?	(Göpel, 2011; Hollis, 2010; Nesbit & Illes, 2015; Pearce, 2012; Weiss, 1992)	Provisions for independence are present and clear	Primary text sources.
Legitimacy	Acceptance and justification of its authority and if it receives support in operational and authoritative activity from citizens, government and private sector. Power and ability to intervene.	Are the procedural characteristics of the mechanism accepted by participants of the institution? Does the mechanism have participation, discourse or inclusivity? Are the decisions and rules of the mechanism perceived to solve problems? Is the mechanism perceived to have authority? Are there explicit provisions for intervention? Are there examples of authority being exhibited?	(Biermann, 2014; Dellmuth & Tailberg, 2014; Gonzalez-Ricoy & Gosseries, 2016; Göpel, 2011; Newig & Fritsch, 2009; Pearce, 2012)	Procedural documentation of the institution; Presence of public discourses about the institution; Results, reports, decisions, statements or any other kind of output; Opinions of members of the institution; Explicit provisions for intervention; Examples of authority exhibited.	Primary text sources; Interviews; Media or public comments; Scholarly literature.
Feasibility	Possible within the social, political and economic context as well as in relation to the problem structure. It is resilient enough in these conditions to continue to exist and function, linked to independence.	Does the context enable of hinder the mechanism? Does the institutional design of the mechanism facilitate longevity?	(Göpel, 2011; McGinnis, 2011; Mitchell, 2006; Ostrom, 2005; Rasche, 2009; Young, 1994)	Presence of governance systems and institutional structures complementing or contracting the mechanism. Presence of long-term financial sustainability plans; Institutional design accounts for context and development.	Primary text sources; Scholarly literature; Government statements or positions.

Accountability	Responsibility to normative principles, institutional structure it sits within, and civil society.	What is the responsibility of the mechanism? What is the relationship between decisions made by the mechanism and its context (institution and civil society)? Is there a reporting, monitoring or transparency framework?	(Biermann, 2014; Gonzalez-Ricoy & Gosseries, 2016; Mitchell, 2006; Pearce, 2012; Rasche, 2009)	Comparison of mechanism principles and normative relational context; Presence of reporting, monitoring or transparency frameworks.	Primary text sources.
Normative Significance	Upholds the principles for which it exists.	Do the values of the institution align with the concept of intergenerational equity?	(McGinnis, 2011; Paton, 2000)	Presence of mission, vision, values, statement of purpose, etc. documentation.	Primary text sources.

To draw conclusions about effectiveness of individual institutions and paint a clear picture of global progress on implementation of this concept, a grading scale has been used to make a conclusion about the presence of each of the criteria outlined in Table 2. Each individual mechanism serves as the unit of analysis and was assessed and scored according to each factor. The scale is be a four-point scale, ranging from: not present, minimally present, present, very present. In order for a program to be concluded as effective, it must score an average of a 2.5 or higher (Table 3). This allowed for descriptive statistics that demonstrate the extent to which the global community is implementing intergenerational equity on a national level, these are outlined in Section 8.

Table 3. Grading Scale for Assessment of Mechanisms

Numerical Score	Description
0	Information not available
1	Factor not present
2	Factor minimally present
3	Factor present
4	Factor very present – sets a possible example of best practice

This grading scale was applied to the analytical framework seen above in the following table for each mechanism.

Table 4. Example Scoring Table Used Per Mechanism

Factor	Question	Notes	Conclusion/Score
Effects	What are the Effects? (policy, judicial decisions, public opinion, funding decisions, negotiation outcomes, institutional changes)		
Independence	Does the mechanism have explicit provisions for sustained political and financial independence?		
Legitimacy	Are the procedural characteristics of the mechanism accepted by participants of the institution? Does the mechanism have participation, discourse or inclusivity? Are the decisions and rules of the mechanism perceived to solve problems? Is the mechanism perceived to have authority? Are there explicit provisions for intervention? Are there examples of authority being exhibited?		
Feasibility	Does the context enable of hinder the mechanism? Does the institutional design of the mechanism facilitate longevity?		
Accountability	What is the relationship between the mechanism in the normative principles of intergenerational equity? What is the responsibility of the mechanism? What is the relationship between decisions made by the mechanism and its context (institution and civil society)? Is there a reporting, monitoring or transparency framework?		
Normative Significance	Do the values of the institution align with the concept of intergenerational equity?		

2.4 Methodology

This research employed a multi-method approach to gather information about implementation of intergenerational equity at a national level. The research was qualitatively driven and analysis took place through the analytical frameworks explain in Section 2.3. Data was gathered to conduct this

analysis, and took place in two stages: first initial desk research was conducted to identify a selection of cases; data was collected for analysis through desk-based research and expert interviews.

2.4.1 Selection of cases

To identify what mechanisms would be studied, an initial review of all possible examples of implementation of intergenerational equity was conducted. This was done through literature review of work in the field of court cases, government policy, institutions like ombudspersons, legal doctrine, public government statements, and civil society activity on the topic of implementation of intergenerational equity as well as a google search for related topics. The idea was to cast the net as wide as possible to identify all possible mechanisms to include in the research before narrowing down on which were specifically relevant. This review found that just over 70 countries had some form of activity taking place and an initial estimate was made that around 50 of these countries have significant activity to research and therefore significant data to collect.

Once identified, the list of cases was used to develop the categorization framework in Section 2.2 and the possible effects list in 2.3. The exact parameters of what cases have been included are listed in section 2.2 as this elaborates on each of the categories. One key feature is that each mechanism had to explicitly and specifically identify that the pursuit of intergenerational equity was part of its purpose. Many broad institutions working on sustainable development have been left out because of this. Each of these cases of mechanisms are the independent variable under consideration here.

However, as the research process began, it was found that there were many more mechanisms that were not included in this initial gathering exercise. In fact, in total, there were 164 mechanisms studied. In order for this research to be comprehensive, and still include all of the mechanisms to achieve the research aim, some mechanisms were grouped together in their analysis. For example, the constitution as a mechanism, as well youth representation mechanisms such as all parliamentary youth quota schemes were grouped together so that the governance mechanisms were analyzed per unique institutions, rather than per example. The initial process of selecting cases was essential for identifying categories, developing the research framework and for research planning. The fact that there were almost twice as many mechanisms to be studied as were originally developed posed a significant challenge to the research process and highlighted the extent to which this research is just the beginning of filling this knowledge gap.

2.4.2 Data Collection

Desk-Based Research:

In order to understand comprehensively the global activity to implement intergenerational equity, desk-based research was conducted to collect information about what activity is taking place so that this can be analyzed. This will be most significantly made up of reviewing key documents like policy documents, constitutions, frameworks, strategies and plans; reviewing the limited academic literature on the topic; and reviewing informal research and output from NGO's on the topic.

Expert Interviews:

Semi-structured interviews were conducted over skype with some of the representatives who work on the activity or implementation of intergenerational equity in order to acquire further information about the outcome and impact of the implementation methods. It was originally aimed to conduct

at least one interview was conducted per category of mechanism to get a more in depth understanding of the dynamic of the mechanisms at work. This was achieved; however, some interviewees were more sensitive about the information that they provided and so the use of this data in this research has reflected these circumstances and it has been anonymized or left out.

2.4.3 Expected Results

The results will take three forms: first, they will form a comprehensive overview of the effectiveness of global implementation of intergenerational equity; second, together this review will conclude with an understanding of what an effective mechanism could look like, offer a proposal of an effective mechanism and offer reforms for the current governance mechanisms; and finally, there were quantitative findings which conclude the number, frequency and location of mechanisms, or 'Large N' findings.

2.4.4 Limitations of the Research

Language Barriers

Overall, the language barrier was not a significant limitation because many institutions or organizations have worked to translate key materials into English. However, there were a few institutions where collecting information was difficult because of the language of communication and resources available. In particular, in the institutional examples of Ecuador and Tunisia, it is likely that more information could have been found and therefore a more thorough analysis could have been conducted if the researcher spoke local languages or further translations were available.

Time and Scope

The scale and potential of this research field can be seen in the fact that the number of mechanisms identified in the research process was more than double the number identified in the initial investigation as part of the process of selecting cases. A more thorough analysis of the effects and impacts, and particularly the impact on policy and the relationship with civil society, would have added depth to this research. However, as the aim of the research was to create a global overview, it was decided that it was more important to include all mechanisms, rather than limit the number of mechanisms to conduct further detailed analysis. This choice was made not only because it aligns with the research aim, but because this field is still emerging, and it was clear that an overview is the most relevant and important addition to the scientific understanding, and that in depth analysis should and can come after this.

3 Specialized Institution or Agency

3.1 Introduction

This chapter looks at the different ways in which specialized institutions or agencies work to implement the concept of intergenerational equity. This is most commonly discussed as an Ombudsperson, but there are many other institutional mechanisms which are built on the foundations of this concept that are included here.

This section discusses each of the Specialized Institutions included in this research. Originally, there were 14 identified to study, however on further investigation it became apparent that only 11 of these were explicit about their focus on intergenerational equity. This highlighted a particular problem with previous research conducted in this area that will be further elaborated on in the discussion, which is that many institutions have been identified as working on intergenerational equity by researchers or campaigners, but these researchers make substantial normative assumptions about what constitutes activity on intergenerational equity and apply their own bias to their object of study in a significant way that has skewed the research and state of knowledge in this field.

Therefore, in the section below, the mechanisms which work on implementing intergenerational equity will be addressed first. Following this, the institutions which were originally included in the scope of this study, which cannot be deemed as mechanisms to implement intergenerational equity are including in the Appendix 10.1 as some are relevant for overall conclusions and discussion.

3.2 Australian National Sustainability Council (Disbanded)

3.2.1 Description

The Australian National Sustainability Council has a mandate for intergenerational equity through its definition of sustainability, the field in which it works. The Council defines sustainability as being “concerned with the future and with the ability to maintain certain values, assets or capabilities over the long term... [and] considering equity within society and across generations” (Australian Government, 2013a). The Council was created to provide independent expert advice, report on progress and against sustainability indicators, and inform citizens and decision-makers (Australian Government, 2013a). Its mandate on the normative concept of sustainability is core to the institution, however this role is not thoroughly operationalized in its reporting mechanism or structures. As an institution for intergenerational equity, it was plagued by the same problems that it was created to solve: political short-termism. Its short institutional life span, between October 2012 and September 2013, was the result of pattern of creation and destruction that has existed in Australian national politics for the past couple of decades, whereby with each election and change of government a whole host of institutions are disbanded and then new ones created. Of all the institutions on intergenerational equity, the Australian National Sustainability Council was the shortest-lived.

3.2.2 Output

In its short lifespan, the National Sustainability Council had one main output, the production of a Baseline report, the Sustainable Australia Report (Twomey, 2013). A few months after the report was published, the council was disbanded (Australian Government, 2013a). This report was supposed to be an information-gathering or stock-taking exercise rather than an output resulting in any kind of impact or effects. Neither the Council nor the report show any means, institutional

structure or functions which would facilitate it having any more significant effects: for example, the report does not even include any recommendations (Australian Government, 2013b). When disbanded, the baseline report and baselining exercise was started over again with the next government and a new institution, so the extent to which this can even be considered a significant output of the institution is questionable in itself.

3.2.3 Impacts & Effectiveness

Based on its short life-span, small remit, and lack of authority, it's not possible to claim that the Australian National Sustainability Council had any impact on the state of environment or climate governance in Australia. While there are some aspects in the institutional design of the National Sustainability Council that could facilitate effective implementation of intergenerational equity, the institution is riddled with many fundamental flaws. Some strengths can be found in the way that it defines intergenerational equity and sustainability by linking these concepts to cross-sector priorities in its baseline report (Australian Government, 2013b). In addition, one of the core purposes of the institution is to function as a reporting mechanism on sustainability (Australian Government, 2013a). The purpose of the baseline report was to be able to monitor effectively, however, it didn't last long enough to be able to do this (Australian Government, 2013c).

The fate of the Australian National Sustainability Council may be the most important indicator for the lack of effectiveness of the institution. An institution set up to protect against short term planning must be able to last beyond election cycles, and it did not. Because the Council was set up by a Minister of the Government in power, and not by any law or with any legislative foundation, disbanding it was too easy and demonstrates that it lacked legitimacy, feasibility and independence. In addition, while the aspiration to function as a reporting mechanism for the country on Sustainability was important, without any authority to hold any party to account, make decisions, or enforce any recommendations, the legitimacy is further undermined.

3.3 Canadian Commissioner of the Environment and Sustainable Development

3.3.1 Description

The Canadian Commission of the Environment and Sustainable Development (CESD) was created in 1995 following an act which expanded the remit of the Office of the Auditor General to include an environmental mandate. The inclusion of intergenerational equity in its mandate is not as explicit as other mechanisms, however, like the Australian example it is rooted in how the institution defines sustainable development and therefore how it defines the foundation for its work and remit (Commissioner of the Environment and Sustainable Development, 2007, 2010). The mandate of the Commissioner explicitly states sustainable development requires considerations of equity and respect for the needs of future generations (Office of the Auditor General of Canada, 2007). Following the 1995 Act, the office of the Commissioner came to exist with its own remit within the Auditor General's office. In 2008 with the passing of the Federal Sustainable Development Act the remit of the Commissioner grew from auditing and advising on the government's management of the environment and sustainable development to also reviewing the new sustainable development strategies and progress of each government department (Office of the Auditor General of Canada, 2017). It has continued to function in this way since 2008.

3.3.2 Output

The CESD has significant output over the past 2 decades that it has been contributing to the governance of Canada in the form of reports (both on its own work and on the work of the government), recommendations, and proposals. In addition, the CESD was instrumental in the development of the Federal Sustainable Development Act, which in the 2007 the Annual Report to parliament explicitly calls on the government to develop a new Sustainable Development Strategy as the current one had, in the assessment of the CESD, become ineffective (Commissioner of the Environment and Sustainable Development, 2007). However, the same annual report to parliament by the CESD which called for a new Sustainable Development Strategy in 2007 (which was followed by the new Federal Sustainable Development Act in 2008) made a similar request in 2016 saying that “a better FSDS [Federal Sustainable Development Strategy] is needed” (Commissioner of the Environment and Sustainable Development, 2016; Parliament of Canada, 2008). Therefore, while there may be an institutional or governance effect of the CESD, this does not seem to manifest into real change.

In addition to this, the CESD also oversees the petition process to the government. While the petition process seems robust and there are extensive reports on the handling and trends of these, it is unclear whether any of the petitions have ever resulted in change in policy and they seem to function more as a communication tool.

3.3.3 Impacts & Effectiveness

The mechanism benefits from the independence, long-term feasibility and legitimacy provided by its institutional position within the Office of the Auditor General, however it does not have financial independence. It also seems to be generally accepted and valued by the other bodies and actors within the governance setting, however, it lacks an official enforcement mechanism or means for exerting authority (Office of the Auditor General of Canada, 2016). Instead its authority is demonstrated through recommendations and reports, which do have some significance to the government (Commissioner of the Environment and Sustainable Development, 2008, 2014). However, as pointed out in an independent review of the mechanism in 2007, there is an important question of whether being part of the Office of the Auditor General is a help or a hindrance (Office of the Auditor General, 2009; Office of the Auditor General of Canada, 2007). Because its initial design in this setting was to fulfil the environment remit of the auditing function, its foundation is rooted in the auditing process, reporting and environmental assessments, rather than the proactive approach needed for sustainable development implementation. The accountability of the mechanism is strong because of its foundation and institutionalised and thorough reporting (internally and externally), however, its normative significance lacks clear operationalization of what equity for future generations means.

3.4 Finnish Committee for the Future

3.4.1 Description

The Committee for the Future is a committee in the Parliament of Finland who’s remit is to think about the future, focus on major future problems and opportunities (The Finnish Parliament, 2017; Tiihonen, 2014). It is comprised of 17 individuals who are all parliamentary representatives from a range of different parties. The committee was created to work on long-term issues, which are beyond the scale and breadth of election cycles and it is situated at the core of the government, as it is within the remit of the Prime Minister, however it does not have legislative power. The core of the mandate for implementation of intergenerational equity for the Finnish Committee is in their conceptualisation of democracy – that democracy is inherently intergenerational because it shapes the future (Tiihonen, 2015). Therefore, the Committee for the Future is about creating a pillar of “intergenerational solidarity and justice” within the government and their democratic system

(Tiihonen, 2015). This is a unique way of looking at the purpose and role of such an institution. The committee members themselves also recognize and elaborate on the role that they feel the committee has on implementing intergenerational equity, in an even more explicit way than is stated in any of the founding or guiding texts (Paula Tiihonen (ed), 2016).

3.4.2 Output

The Committee has three main outputs of its work: reports, public consultations and engagement and responses to the government. In addition to these outputs the Committee also has an important voice in setting the agenda and narrative about the future and future priorities, that is listened to by the government and significantly influences budgets and work programmes produced by the government (Tiihonen, 2015). The main task of the Committee for the Future is to prepare the Parliament's response to the Government's Report on the Future which recognizes important political themes at an early stage (The Finnish Parliament, 2017). The Committee's focus on the future means that its reports and considerations are often investigations into innovative technology or new systems, structures or ways of working and in this way, it influences the agenda and priorities of the government.

3.4.3 Impact and Effectiveness

While the direct link between the reports and responses that the committee puts forward and policy decisions is not always publicly clear, information published about the Committee (by the Committee and its employees) implies that it has a significant impact and legitimacy within the government and steering policy, given its authority and relation to the Prime Minister, its genuine cross-party collaboration, its participation methods (Nesbit & Illes, 2015; Tiihonen, 2015). Analysis of texts shows that some key points from the Report on the Future find their way into the government's programme generally (Tiihonen, 2015). While the tools that the committee use might on the surface appear to lack authority to influence, the reality is that the committee benefits from significant legitimacy within the government and governance context and so their role and relationships seems to be influential. Institutional stability and long-standing trust both influence and are influenced by the legitimacy of the institution. The statement by a parliament member in response to the committee being made a permanent committee in the parliament that "the future is permanent" exemplifies this sentiment present in the Finnish Government towards this institution (Tiihonen, 2015).

While setting one's own agenda is often a sign of independence, which is important to an institution such as this, it sometimes also has weaknesses. Because the agenda is set by the individuals on the committee, the risk in this is that it lacks coherency and depends on the current priorities of the elected officials on the committee (Marcel Szabó, 2015). No elected official can ever completely remove themselves from that reality, no matter how much the institutional design might encourage this. As a ramification of the way that priorities are identified, climate change has not yet been an explicit annual thematic area of focus for the committee. Instead, more technology focussed subjects which link to climate change, such as energy, have been a thematic focus. This puts into question the normative significance of the committee in the context of this analysis. In addition, while they decide their own agenda and purpose, they are only allowed to respond to parliament when this has been requested (Marcel Szabó, 2015).

The Finnish institution, more so than almost any other institution, benefits from a significant amount of public legitimacy as its focus on citizen participation through specific mechanisms allows it to operate truly consultatively with the public as well as beyond and across party lines (Paula Tiihonen

(ed), 2016). This public legitimacy and accountability both with the public and within the government are important characteristics of this institution.

3.5 France - Council for the Rights of Future Generations (Disbanded)

3.5.1 Description

Between 1993 and 2013 the French government established a Council for the Rights of Future Generations. The Council was established to work on the integration and consistency of environment in public policy. The article establishing the Council, passed through the French Parliament in 1993, makes explicit reference to the fact that the Council was created to further the objectives defined at the UN Rio Conference in 1992 (Republique Francaise, 1993). Implementation of the Council sits within the remit of the Prime Minister and the Minister for the Environment, with the nine members and a Chair, who are experts in the field, being appointed by the President of France for three year terms. There are loose descriptions of public accountability, such as, that opinions and annual reports must be public.

The Council was created in exchange for the High Committee on the Environment in 1993, and was dismantled in exchange for the creation of a National Council for Sustainable Development. The National Council for Sustainable Development also no longer exists under this name and what was its remit has expanded and now sits between two Ministries and three Councils/Commissions. It was not clear whether any of these institutions differed from each other over time, or to what extent the changes related to national political changes or whether they were created to keep up with the international discourse and priorities on environmental protection and sustainable development.

There is no information available about the output of the Council of the Rights of Future Generations during its time running and no evidence to suggest that the National Council for Sustainable Development or any newer versions of this institution, have continued any explicit priorities around intergenerational equity or future generations in its newer forms, and so they have not been studied. Over time it appears that the agenda has grown substantially, which is perhaps why it is difficult to establish outputs from the Council of the Rights of Future Generations as these may have come to fall under the remit of the replacing institutions. This growth and proliferation of institutions around this topic could be a sign of the agenda growing and maturing, however, as the number of institutions working the issue has multiplied, the level of priority has been pushed down. Ownership of the portfolio now sits with the Environmental Minister rather than the Prime Minister of the President (Republique Francaise, 2003). Finally, unlike other countries, the change in institutions does not align so clearly with changes in government or parliament, suggesting that there is a much more complicated dynamic at play and a much deeper analysis would be needed to understand it.

3.6 Germany – Parliamentary Advisory Council for Sustainable Development

3.6.1 Description

The German Parliamentary Advisory Council for Sustainable Development was created in 2004 and is comprised of parliamentary representatives who are appointed to the council. It works to monitor implementation of the National Sustainable Development Strategy. Its explicit mandate for implementing intergenerational equity was found in the way that it identifies intergenerational equity as the first topic under which indicators are measured to assess sustainability efforts in the government's progress, a core part of its work (Parliamentary Advisory Council on Sustainable

Development, 2015b; Marcel Szabó, 2015). However, while the identification of intergenerational equity as the largest section of indicators for measuring sustainable development against is significant, the operationalization of this concept within the specific indicators discussed in this section is not clear. None of the details of the indicators themselves discuss intergenerational equity explicitly and consequently the report ends up discussing progress towards other goals rather than equity.

In 2016, the Government updated the National Sustainability Strategy and with this came up a new set of indicators, using the framework of the Sustainable Development Goals. In this new framework, the concept is discussed in the way that sustainable development is defined, however, its explicit nature as an indicator has been abandoned for a framework with more political significance (The Federal Government of Germany, 2016).

There are a number of other sustainable development focused councils and committees within the German Government that have overlapping and intersecting remits (German Advisory Council on Global Change, 2017; German Council For Sustainable Development, 2017). These remits relate to such an extent that some analysis has even claimed that there were actually four bodies working on intergenerational equity (Tremmel, 2006; United Nations Secretary-General, 2013). However, in spite of this multiplicity of institutions, the specific remits and outputs of each, especially related to intergenerational equity is relatively unclear.

3.6.2 Output

The main output of the Council is the monitoring, reviewing and reporting on the government's sustainable development strategy, as well as scrutinizing the government more generally on its progress in this field (Parliamentary Advisory Council on Sustainable Development, 2015c). An example of the scrutiny and influence the council is seen in the addition of the Federal Government of a sustainability impact assessment to the Joint Rules of Procedure of the Federal Ministries (German Council for Sustainable Development, 2017). However, its own assessment of the council's work and the government's progress on the National Sustainable Development Strategy claims that the German government isn't making progress fast enough on these assessments or any other aspect of sustainable development (The Federal Government of Germany, 2012).

3.6.3 Impacts & Effectiveness

While there are a number of unique features of the German institution, which seem to set it apart its potential for effectiveness, it is burdened by a few significant challenges and the recent changes to the institution make it less connected to the concept of intergenerational equity. Because it is a parliamentary council with representatives that are elected, and selected to be in the committee with each new parliamentary session, there is no sense of real independence of the council from the government and the political dynamic (Deutscher Bundestag, 2014; H. Popp, personal communication, May 23, 2017) In fact, each new government has to re-establish the council and its mandate formally, and because of this the council has consistently been established later in the life of the parliament and therefore can't have a consistent work programme (CDU/CSU; SPD; Left Party; Alliance 90/The Greens, 2014). The council is currently advocating for automatic reinstatement of the committee with each new parliament, but this has not happened yet (H. Popp, personal communication, May 23, 2017). On the contrary, one benefit to this could be that the members of the council and the council itself is more directly accountable to the government and to the people that elect them, because they are all elected officials.

In addition, the council also has very little authority – scrutiny, monitoring, reporting and recommendations do not constitute any kind of enforcement or authority in decision-making or agenda setting and any influence depends on the perceived legitimacy of the institution (German Council for Sustainable Development, 2017). The composition of the council means that it has no power or authority to stop or enforce changes because representatives from the government are also in the council and could never politically allow the council to stop changes from the government (H. Popp, personal communication, May 23, 2017). However, in spite of this, the council has benefitted from an increasing remit in the past successive parliaments, so its perceived legitimacy in the government context does seem to be significant and with the increasing political priority of the Sustainable Development Goals and the reframing of their work in this context, their legitimacy may increase (Parliamentary Advisory Council on Sustainable Development, 2015a, 2015c).

The most unique and relevant feature of the institution was their monitoring framework, which included intergenerational equity. The implementation of a new monitoring framework, using the Sustainable Development Goals, may allow for a more holistic framework for the government and more clear indicators, however, the change in narrative represents a change in priorities as well (Parliamentary Advisory Council on Sustainable Development, 2015c; The Federal Government of Germany, 2012). While the concept of sustainable development and the SDG's may imply intergenerational equity, it is not longer explicit, and therefore less normatively significant, than the previous process. Therefore, it is unclear whether this monitoring framework has contributed to an increase in intergenerational equity.

In addition, the effects of sustainability impact assessments, are also unclear. Although the council claims that this has been a significant achievement, when discussed with a representative of the Council, they did not recognize this as being an output or effect of the Council (Parliamentary Advisory Council on Sustainable Development, 2005; H. Popp, personal communication, May 23, 2017).

3.7 Hungary – Parliamentary Commissioner for Future Generations & Deputy Ombudsperson for Future Generation

3.7.1 Description

The Hungarian Ombudsperson for Future Generations is often considered the most significant example of implementation of intergenerational equity. However, the majority of literature that explains it as such is from before the institution was altered in 2012.

The development of this institution has taken place over almost two decades. It began in the 1990's as a campaign of a local NGO and it took just over ten years from this moment to get to the first proposal being laid before parliament and another six years before the bill was passed and the institution was enshrined into law. This process created the Parliamentary Commissioner for Future Generations, an independent authority which monitors, evaluates and controls the enforcement of sustainability through law and could act pro-actively and influence, intervene and inform (Fülöp, 2010a; Jávör & Rácz, 2006; Marcel Szabó, 2015). The Commissioner's mandate for intergenerational equity comes from Act LIX of the Parliamentary Commissioner for Civil Rights (Ombudsman) where it states that the Ombudsperson can act in areas which are "directly affecting the quality of life of future generations" (Parliamentary Commissioner For Future Generations, 2011). The connection between protecting the rights of future generations and intergenerational equity was explicitly made by the Commissioner, Sándor Fülöp, on many occasions making its remit on this concept very clear (Fülöp, 2010a, 2010b).

In 2012, with a new government, a new constitution was passed and consequently the institution changed from its own independent office to sitting within the office of the Ombudsperson for Fundamental Rights, under which two Deputy Ombudsmen sit, one for future generations and one for minorities (Marcel Szabó, 2015). While the new constitution included more explicit references, the first Commissioner criticized this move saying: “Constitutional declarations are not enough to provide the proper protection of the environment. Without institutional guarantees none of the fundamental rights, accordingly, the right to a healthy environment, can be enforced...” (Parliamentary Commissioner for Future Generations, 2011). The mandate for intergenerational equity of the new institution is in some ways dependent on the previous institution’s mandate. There is not explicit reference to intergenerational equity, however, the combination of the remit of “the interest of future generations” based within the “National Human Rights Institution” gives this authority (Office of the Commissioner for Fundamental Rights, 2013). The Deputy Ombudsperson for Future Generations is explicitly a reform of the previous institution and so it carries with it the same normative conceptual background, however with significant less authority.

3.7.2 Output

The Annual Reports of the Parliamentary Commissioner for Future Generations includes extensive reporting on the activity of the Commissioner’s office. For example, its first year of operation, it participated in 81 consultations, initiated 1 constitutional and 17 legislative proposals, dealt with 422 complaints, and launched 271 investigations with 97 completed (Fülöp, 2010a).

The most recent Annual Report of the Commissioner for Fundamental Rights from 2012, outlines an extensive list of reactive activities as well as four key projects. However, none of the key projects and a very small number of the reactive activities fit within the remit of the Deputy Ombudsperson for Future Generations (Office of the Commissioner for Fundamental Rights, 2013).

3.7.3 Impacts & Effectiveness

In its first year of practice alone, the Parliamentary Commissioner for Future Generations influenced 24 environmental acts and enforcements, and had positive impacts on the majority of the cases it intervened in (Fülöp, 2010a; Office of the Commissioner for Fundamental Rights, 2013, 2016). However, despite the overwhelming list of accomplishments of the Parliamentary Commissioner for Future Generations, it is problematic to conclude that an institution which took almost 20 years to create, which was dismantled in one election cycle after only 4 years of operation, is an effective way to implement intergenerational equity.

The impact of the Deputy Ombudsperson for Future Generations seems to be primarily in the form of motions, recommendations and propositions, and there is little evidence of the significance of these. In contrast to the Parliamentary Commissioner for Future Generations, the Deputy Ombudsperson for Future Generations does not have its own investigative powers, any of its activities have to go through the Commissioner, who also appoints the Deputies (European Network of Equality Bodies, 2011). The Commissioner’s office also does not have the authority to investigate the main branches of government (Parliament, the President’s Office, the Constitutional Court) and so it is difficult to see how and where any influence could be made within the changed institutional design (European Network of Equality Bodies, 2017; Office of the Commissioner for Fundamental Rights, 2013).

In spite of what seems like a decrease of effectiveness for the Future Generations institutional representative, following the transition the new Ombudsman claimed that the changes will bring about a more effective institution as a whole (Máté Szabó, 2012). He specifically outlined that

better management and organisation of the Ombudsman office as a whole would bring about improvements. Related to this, the trade-off must be recognised between the public and political buy-in of the two institutions. While the Parliamentary Commissioner for Future Generations institution was held up as an international example of best practice of how to institutionalise and implement intergenerational equity, the institution didn't last through its first election cycle, the political and public commitment wasn't present. However, once embedded within the national human rights institution, an institution with greater normative significance in public and political perception, support is greater, as demonstrated by a 2012 poll (Office of the Commissioner for Fundamental Rights, 2013). This dynamic raises the question of whether a specialised agency is the most effective way to institutionalise intergenerational equity, or whether integration within the governance system has merits that outweigh independence – this trade-off will be further elaborated on in the Discussion section.

3.8 Israel – Parliamentary Commissioner for Future Generations (Disbanded)

3.8.1 Description

The Parliamentary Commissioner for Future Generations in the Israeli Knesset was established in 2001 by representatives within the parliament itself and was widely recognized as dealing with a “blind-spot” within the functioning of the government (Tremmel, 2006). This institution is one of few examples where the impetus for the institution came from within the parliament itself. The institution had a wide remit covering most aspects of government activity, with both intra and extra parliamentary authority, and had the core responsibilities of submitting reports on legislature that impacted on future generations and to provide advice and recommendations (Tremmel, 2006).

3.8.2 Output

Officially, the main output of the institution was to provide reports on legislature that related to future generations (Knesset Research and Information Center, 2006). Because no legislature could be passed until the Commission had reported, it can have a sort of “pocket veto”, whereby the actual influence can be far greater than the officially mandated influence (Paula Tiihonen (ed), 2016). In addition to reports and recommendations which are explicitly outlined as core output of the institution, an additional output of the Commission was to work towards developing specifically what the “special interests” of future generations are, and embedding the concept of sustainable development across all the levels of governance. Neither of these goals were achieved before the institution was dismantled in 2006, but they constitute notable output goals (Tremmel, 2006).

3.8.3 Impact and Effectiveness

As with other dismantled institutions, claims of impact must be balanced out with the reality that the institution was able to continue to be a permanent function of the government or governance system. The former commissioner has claimed that: “the concept of future generations has found its way to all levels of governance as a result of the Commission's activities” (Tremmel, 2006, p 261). This appears to have been institutionalized in the Sustainable Development Strategy published two years after the creation of the Commission, which includes tasks allocated to each Ministry (and to be delivered by their budget) (Israel Ministry for Environmental Protection, 2003). However, reporting on progress on this is only apparent from the Ministry of the Environment and it's unclear to what extent implementation on this strategy is taking place – particularly considering that the Ministry itself criticizes the government's lack of ability to term policy into implementation (Ministry of Environmental Protection, 2014). Finally, the accountability of the Israeli Government, the

Knesset and the Ministry of Environmental Protection to produce accurate reports of its own work comes into question, as within this same report other facilities and progress has been mapped and outlined as achieved that is in territory that does not legally belong to the government and so the accuracy of the whole must come into question (The Ministry of Environmental Protection, 2012).

With regards to the effectiveness of the institution itself, the Israeli institution is often held up as a good example internationally: this is largely because the institution had an exceptionally broad remit, extending far beyond the environmental department or portfolio, and because the design of the institution lent it significant authority over the government. However, these characteristics were balanced out by detrimental ones. Its legitimacy was significantly hindered by the fact that it was a top-down creation, which continued into its activities, and this left the institution with little public status: the Commissioner himself admitting that the institution was constantly caught between its governmental status and its public status (Tremmel, 2006). In addition, while the institution had legal grounding in the Amendment passed in 2001, it seems that the design, if not the concept as a whole, was not feasible in this context. There are two core problems with its feasibility: first, the creation and design of the institution facilitated tensions to rise between the Commission and the Knesset, the latter ultimately having the power to dismantle the the former to end the tension; secondly, the social, political, economic context of Israel in the 2000's meant that not only was the Commission not a funding priority for the Knesset, but it is also difficult to justify sustainable development as a priority to a country and a people who are fighting for their very existence (Tremmel, 2006).

3.9 Malta Ombudsperson for Future Generations

3.9.1 Description

The Maltese government has been a long-standing advocate for the concept of an Ombudsperson for Future Generations being introduced at the international level; however, plans to implement such an institution nationally have demonstrated many of the challenges of achieving this (Nesbit & Illes, 2015; United Nations Secretary-General, 2013). The government has made two attempts to introduce such an institution in Malta, the first in 2012 and the second in January 2017 ("Entrepreneur Maurice Mizzi appointed 'Guardian of Future Generations,'" 2017, "Government appoints Guardian of Future Generations and Sustainable Development Network," 2012).

The new institution established in 2017 has not been present long enough to comment on its effects, effectiveness, or even elaborate on any of the details, as these are not available; however, it is significant that the Maltese government is persistent enough about implementing the concept of intergenerational equity that after the failure of the first institution, a second attempt has been made. The 2012 institution was created by the passage of a law and comprised of 3 commissioners, who had a range of backgrounds, including the former UNFCCC executive Secretary, Michael Zammit Cutajar. In spite of expertise and motivation, the office resigned because of lack of support within the government for the institution (House of Representatives of Malta, 2012, 2016; Muscat, 2015). This is the only institution which was disbanded because the commissioners resigned, rather than the government disbanding it. While the driving force is largely the same, that there wasn't enough political will to support the institution in terms of influence or resources, the differentiation in process is significant.

3.9.2 Output

Data was not available on the output of this institution. In addition, as it is only just being reformed, it is possible that it does not have any outputs yet.

3.9.3 Impacts & Effectiveness

When the commissioners resigned from their posts in the Guardian of Future Generations Office in 2015, there were many explanations for this and for why the institution had failed. The overarching problem was that: “There is a gap between vision and implementation” (Muscat, 2015). The first aspect of this was that the institution had no resources: there was no budget assigned and the commissioners appointed held the posts voluntarily, making it an unfeasible endeavour. In addition, there was little buy-in throughout government, which manifested in a lack of sharing of information and a lack of perceived legitimacy internally and externally. There seems to be no provisions made for accountability. However, perhaps this was unnecessary because the institution was not given any authority for which it needed to be accountable. Fundamentally there was a resource and legitimacy deficit – in their parting words, the commissioners stated that cross-party support, financial resources and buy-in from the President rather than a Minister would be necessary for success (Muscat, 2015). It is unclear whether any of these issues have been addressed in the design of the new institution.

3.10 New Zealand – Parliamentary Commissioner for the Environment

3.10.1 Description

New Zealand’s Parliamentary Commissioner for the Environment is one of the first examples of its kind. Established in 1986, it was even before the publication of the Brundtland Report and other major international developments of Sustainable Development concepts. While its mandate for intergenerational equity is not as clear as some other institutions, this can be explained by the fact that it was designed before this concept was really applied to environmental issues, therefore this weakness in its mandate and its normative significance can be explained with an understanding of the context in which it was created. While the more recent work of the Commissioner discusses future generations, it does not explicitly connect its remit or purpose to intergenerational equity in the same way that some of the other institutions do (Parliamentary Commissioner for the Environment, 2012).

The Commissioner works to maintain and improve quality of environment, review agencies and processes, and investigate the effectiveness of the planning and management of public authorities, and advise on action (Parliamentary Commissioner for the Environment, 2014). Specifically, it has the remit to undertake the following activities: investigate adverse effects on the environment and advise and report on them; collect and disseminate information; encourage preventative and remedial measures; and it is also obliged to produce public annual reports and take inquiries (New Zealand Government, 1986).

3.10.2 Output

In the last five years the Commissioner averaged 3 reports to parliament per year and 4 issues of other advice (Parliamentary Commissioner for the Environment, 2014). However, there is also a range of other additional functions including corporate reporting, ad hoc responses to policy briefs, leading investigations and dealing with public concerns and complaints. The Commissioner is both pro-active and reactive in its functions and output.

3.10.3 Impacts & Effectiveness

The Commissioner reports that around 60% of its recommendations over the past five years have been adopted or partially adopted (Parliamentary Commissioner for the Environment, 2014). This is quite a high adoption rate for an institution with very little formal authority, no compliance mechanism, and no legislative or judicial ‘teeth’. It is possible that because the institution has existed for 30 years, that it has established legitimacy and authority based on its longevity and durability rather than through its formal power. While the institution seems to be established as a permanent feature in the governance landscape of climate change and environment governance in New Zealand, it has two key weaknesses: the first, its lack of impact on environmental degradation and climate change; and second, its normative relevance to environment, climate change and sustainability discourses of the present. The Commissioner itself points out in report the lack of progress on certain issues, such as coastal zones and climate change, on which the office has been working for a long period of time (Parliamentary Commissioner for the Environment, 2016). In addition, the focus on intergenerational equity is implied in the elaboration of protecting the ‘needs of future generations’, however, the foundational documents of the institution have little reference to climate change and elaboration of concepts of rights and equity because of their context. It would be unreasonable to expect that an institution defined before these concepts came to the fore to make explicit reference to them, however, the effectiveness of the institution in its mission and in terms of intergenerational equity, would be strengthened by an update in terms. The Commissioner does appear to be working to connect its initial foundations in protection from environmental degradation with current priorities, such as climate change. But in this endeavour one of its key strengths, its longevity, may make it difficult to transition priorities or reframe its remit.

3.11 Wales - Future Generations Commissioner

3.11.1 Description

The Future Generations Commissioner for Wales was institutionalized by the Well-Being of Future Generations (Wales) Bill in 2015. The Commissioner is appointed by Ministers of the Government in power and is responsible for promoting sustainable development, acting as a guardian for future generations, encouraging public bodies to think in the longer term, and monitor and assess the objectives of the Future Generations Bill (National Assembly for Wales, 2015). The Commissioner’s mandate for implementing intergenerational equity is explicit in the Bill which created the post and in the positions purpose (Howe, 2017a; National Assembly for Wales, 2015).

The local context for the Well-Being of Future Generations (Wales) Bill was significant in how the institution has developed. The new institution is often seen as the local predecessor to the UK Sustainable Development Commission (see Appendix 10.1 for more information), which was disbanded in 2012 (K. Hamilton, personal communication, July 24, 2017). The UK Commission had very little authority and was not enshrined in law, and ultimately was disbanded because of a change in government. The Welsh institution was developed with significant safeguards to protect against the same fate as the UK institution, not least of which that it is enshrined in legislature which was passed with cross-party support and the Bill elaborates significantly on the details of the functioning of the institution. Consequently, this institution is often pointed to as an exemplar for the future.

3.11.2 Output

As the first Future Generations Commissioner was appointed in 2016 and the strategy and work plan is currently open for public consultation, it is too soon to attribute any effects to this governance mechanisms (Howe, 2017a, 2017b). However, initial steps to undertake a participatory consultation to make sure the work plan is representative of Welsh people’s wishes and concerns is well underway.

3.11.3 Impacts & Effectiveness

Just days after the appointment of the first Future Generations Commissioner, there was significant criticism in the press for the lack of independence of the decision (BBC News, 2015; Silk, 2015). The fact that the Government in power seems to have oversight of the Commissioner, not only through appointing the individual holding the post but also by deciding on the Advisory Panel for the Commissioner, threatens the independence and public legitimacy of the institution. However, in contrast to this, the post of the Commissioner is longer than election cycles and also at such a frequency interval which means it cannot be linked to elections (National Assembly for Wales, 2015). Public perception of legitimacy and the legitimacy of the institutional design appear to be contrasting one another from the start. In addition, the fact that the institution is enshrined in legislature, and a piece of legislature that received cross-party support as it gets to the heart of the current socio-economic challenges of Wales, means that institution is likely to remain feasible for the foreseeable future (National Assembly for Wales, 2015). There are mechanisms for accountability through regular reporting and for authority through recommendations, however, how these are used can only be assessed after the institution has been in place for a longer period.

3.12 Discussion

The institutions discussed in this section are each unique in their institutional design and social, political and economic contexts, however there are some common challenges to be addressed for this type of governance mechanism to function more effectively to implement intergenerational equity.

3.12.1 Common Challenges

Election Cycles & Political Short-termism

It is often assumed that once an institution has been created, it becomes institutionalized over time and then becomes a permanent feature on the governance landscape. This is not often the case in practice. Two of the most frequently cited examples of institutions for intergenerational equity, in Israel and Hungary, were undermined and either disbanded entirely or fundamentally altered because of one election cycle. If one of the main goals of institutions which work on intergenerational equity is to facilitate governments to see beyond the current political context and election cycle to plan for the long term, it is difficult to see how an institution which tries to achieve this which can be disbanded because of one election cycle could be fit for purpose.

Legislative Environment

One way around the challenge of election cycles and political instability is to enshrine an institution or a governance mechanism in legislation, such as the example in Wales. This is a common explanation of why the UK Sustainable Development Commission did not have a longer life; however, it is not as simple as this as the Israeli, French and Hungarian examples were enshrined in law and these laws were repealed or changed. This dynamic can also work the other way around, where there has been legal support and institutionalization for new institution in Tunisia and Malta however the formation of this institution doesn't seem to have taken place yet. While there seems to be political will by elected officials for this priority and the creation of this institution, if it never manifests into the architecture of the governance landscape then legal foundations can have no impact.

In addition, one of the biggest barriers to longevity and institutionalization is the way that these institutions challenge the status quo. It is common across these 11 institutions that those with less power to disrupt tend to have longer lifespans and those more authority and influence tend to either be disbanded or reduced with a change in government. This dynamic makes it such that it can be a disadvantage to demonstrate “repressive control” through a legal framework or formal authority, as opposed to “reflexive control” through cooperation and facilitation (Reif, 2004, p 34).

It is often simplified in the literature that institutions for intergenerational equity should have significant power, or even veto power, but this proposal is not based on the reality of most political contexts. The disruptive and challenging nature of this type of institution must be coupled with the building of legitimacy through trust and collaboration internally and externally.

Complexity & Fragmentation

In countries where national government policy and legal frameworks around sustainable development, environment and climate change are more advanced, the institutional context is increasingly complex and this creates different kinds of problems. For example, in Germany, there are multiple institutions which have significant overlap in remit. In the example of Malta, the government was an outspoken advocate of an Ombudsperson on the international stage and was one of the first to develop such a national institution, however this was not sustainably designed and consequently, has had little impact. These and other examples point to the hypothesis that it is easier to create a new institution or mechanism than it is to reform an existing one.

Reactive vs Proactive Mechanisms

With the exception of the Welsh and Finnish institutions, each of the examples studied here are predominantly reactive mechanisms that work on intergenerational equity. However, the core challenge of intergenerational equity is balancing current needs, rights and responsibilities with those of the future. Therefore, work which focusses on reacting rather than designing or creating policies, strategies, decisions, or legislature has limited influence. The Knesset Research center proposes a number of proactive policy processes in which these kind of institutions should have influence to be effective, however almost none of them work in these areas (Teschner, 2013).

3.12.2 Reflections & Recommendations

Building on these common challenges, there are several reflections and recommendations on this mechanism which should be considered in the future.

One of the core unanswered questions here is one of institutional design – are these institutions designed in a way that leads to effective implementation of intergenerational equity? There are two aspects of this to consider: the conceptual foundations of the institution; the relative integration or isolation of the governance mechanism.

Specialized institutions tend to have one of three philosophical foundations, either their foundation is rights-based (examples such as Hungary and France), their foundation is climate change and sustainable development based (examples such as Canada and New Zealand), or their focus is on futurology (examples such as Finland and Sweden). A rights-based approach builds on the normative significance of human rights and fundamental rights and may have more legitimacy and authority in any given governance mechanism. A sustainable development based approach is often taken by institutions which build on implementation of environmental regulation. A future-focused approach

tends to extend beyond environmental issues and rights and instead focusses on developing trends, scenario's and the challenges of future generations. Some successfully integrate two of these foundations, but each of these three approaches on their own misrepresents the complexity of the whole challenge. The Welsh institution comes the closest to integrating all three foundations in their current approach and in this way can be seen as an exemplar.

Building on this, the way in which climate change intergenerational equity concerns are integrated into decisions and output remains a challenge which these institutions are not totally overcoming. This is largely because some of these institutions perpetuate the isolationism that exists between environmental remits and other aspects of governance. This raises the fundamental question of whether a topic-specific Ombudsperson is more effective than a representative within a broader Ombudsperson office, such as the present example in Hungary. Understanding the effectiveness of specific institutions as compared to mainstreaming work across institutions could be an entirely different area of study and so this question, while present in this research, isn't sufficiently answered by these findings.

Finally, almost every institution could benefit from further specifying what many of their normative claims mean in practice to more clearly operationalize their goals and measure their success through indicators. If institutions for future generations are often modelled from human rights institutions, one of the key differences is the fact that there are concrete and explicit human rights standards, but such a codified standard does not exist for any of these institutions and this kind of goal-setting in their institutional design may enable greater effectiveness.

3.13 Conclusion

In conclusion, it was found that there were 11 specialized national institutions which have been working to implement intergenerational equity of climate change. This chapter analysis suggests that none of them are significantly effective, with only the New Zealand and Canadian examples scoring above 2 and only the example of Wales (which is too new to thoroughly examine its effects) as being designed to facilitate effectiveness.

Table 5. Average of Specialized Institution Factor for Effectiveness

Effects	Independence	Legitimacy	Feasibility	Accountability	Normative Significance
1	1.6	1.5	1.6	1.5	2.2

On average institutions tended to have normative significance in their remits, conceptual foundations or the way that they contribute to national or international discourses about intergenerational equity, however, they tended to lack concrete significant effects. Particularly problematic to resulting in effects is the number of institutions which have been disbanded. There is still much hope here, in that many of these institutions have aspects which offer promise, but in these cases often political or economic contextual constraints limit effectiveness.

It can be concluded that this category of governance mechanism has a disproportionate value attributed to it by researchers and practitioners alike. As this research was more focused on identifying governance mechanisms, more investigation, including spending time working with each institution, would be necessary to confirm this hypothesis.

4 Constitutions

Constitutions are the written foundation of the state, and as such have significant authority in the way that they define laws and rights, set priorities, and establish norms for any state. In this research, every constitution from around the world which includes a reference to the concept of intergenerational equity has been collected and analyzed. The following explains the range of legal provisions present, the range outcomes, and what, if any, impact can be attributed to each constitution or clause. In Appendix 10.7 a full table with every clause can be found and in Appendix 10.2 a few examples of individual constitutional analysis can be found.

Thus far, literature on this topic, as outlined in Section 2.2 has only gone some way to explain the diversity of references. This section will explore what kinds of references can be upheld or enforced through various other governance mechanisms, making conclusions on their significance, and moving beyond the current understanding of the role of constitutional clauses.

These have been compiled using two methods: first, constitutions identified in the literature review for this section as including references to intergenerational equity or environmental clauses; second, by searching through Constitute Project's database of constitutions for all those which mentioned the word 'environment'. Following this, these constitutions were reviewed and collated and a database was formed. This database includes the details of every constitution around the world that has some an explicit reference to the environment, from this some level of understanding can be gained as to whether state constitutions are a viable legal mechanism for implementing intergenerational equity.

The constitutions identified will be evaluated with in this chapter as one mechanism for implementing intergenerational equity in the same way as the other mechanisms discussed, in terms of its description, outcome and impact and effects, with special attention paid to the differences between binding and non-binding clauses. It has been treated as one mechanism here because although each constitution and its context is different, they still aim to achieve the same ends and are the legal foundation for the state. Unlike the institutions addressed in the previous chapter with different remits and goals, constitutions serve more generally the same broad purpose in every context.

4.1 Description

There are 120 countries around the world which have included provisions about the environment in their constitutions. It was found that these legal provisions could be broken down into seven categories: the right to a healthy environment, non-binding environmental clauses, explicit mention of future generations, the right of future generations to the environment, more elaborate legal provisions, clauses enabling further legal or policy frameworks to develop, and a citizen responsibility clause. An example of each of these have been included in Table 6 to demonstrate the type of language included in these references as well as reference to the number of each type of clause present around the world.

Table 6. Types of Environmental Clauses in Constitutions

Type of Clause	Example	# of countries with this type of clause
Right to Healthy Environment	"Everyone shall have the right to live in healthy environment..."(Constitutional Commission of Georgia, 1995, p 9).	74
Non-binding environmental clauses	"The state shall endeavour to protect and improve the environment and to preserve and safeguard the natural resources, bio-diversity, wetlands, forests and wild life." (People's Republic of Bangladesh, 2014, p 14); "The Nation shall at all time have the right to impose on private property such restrictions as the public interest may demand... Consequently, appropriate measures shall be issued... Such measures shall seek... preservation and restoration of environmental balance" (United Mexican States, 2015, p 29).	58
Explicit mention of future generations	"The state has a fundamental duty to protect and preserve the natural environment.... For the benefit of present and future generations" (Republic of Maldives, 2008, p 18).	37
Rights of future generations to environment	"The exercise of this right must be granted to individuals and collectives of present and future generations" (Constituent Assembly of Bolivia, 2009, p 15).	5
More elaborate legal provisions	"The public powers shall prevent and control.... Impose legal sanctions... objective responsibility for damages caused..."(National Revisory Assembly, 2015, p 34).	33
Clauses enabling other legal or policy frameworks	"The state shall be responsible for the economical use of natural resources... an effective environmental policy...[and] details on rights and duties... shall be laid down by a law" (Slovak Republic, 2014, p 14)	46
Citizen responsibility clause	"It shall be the duty of every citizen to... protect and safeguard the environment" (Swazi National Council, 2005, p 101).	59

Right to a Healthy Environment

Clauses which establish a right to a healthy environment, provide a clear right of citizens which can be defended an individual right through a court case. This type of clauses allows for a clear and legal right for individuals to be defended. In addition, there are a number of constitutions which elaborate on this which explicitly state that individuals can initiate a court case for infringement of this right (Constituent Assembly of Bolivia, 2009; Constituent Convention of Paraguay, 2011; Government of Burkina Faso, 1991; Republic of Angola, 2010). The concept of the right to a healthy environment links to the implementation of intergenerational equity because rights outlined in a constitution are the rights of all citizens, as constitutions are in their very nature a contract between citizens, past, present and future, and the state (Ekeli, 2007; Thompson, 2010). While the right to a healthy environment for someone born 100 years from now is not likely to be able to be upheld in court, the right to a healthy environment for a child born in 2017, who is likely to live to at least 2080 is a right of a present citizen that can be defended (Gonzalez-Ricoy & Gosseries, 2016). This type of clause is similar across the 74 constitutions which include it. In many cases, it is even included with other fundamental or basic rights of citizens as well as in Articles or sections on environmental protection, strengthening the case for protection and enforcement of this right.

Citizen Responsibility Clauses

In addition to the right to a healthy environment, there are also clauses which elaborate on the responsibility of citizens to protect the environment. The majority of constitutions which include this duty also include the right to a healthy environment, which creates a conflict in the responsibility for environmental protection. If the right of citizens to a healthy environment is established alongside the duty of citizens to protect the environment, it is unclear which would supersede which in a court case. In addition, while there is no evidence of this thus far, the question arises of whether the state would or could enforce this responsibility onto citizens.

More Elaborate Legal Provisions

Clauses that have been categorized as establishing more elaborate legal provisions build on the right to a healthy environment, by either establishing the right to initiate a court case, the right for compensation of punishment for damage to the environment, the links between private property rights and environment, state ownership or management of natural resources, and many more (see Appendix 140 for the full list). This category crucially includes clauses in which environmental conditions or stipulations have been embedded across other sections, such as on the management of natural resources, or the elaboration of the economic model of the state. Integration of environmental provisions across other industry and societal sections demonstrates thorough integration of environmental rights and legal provisions into norms and values and the level of priority. States that demonstrate this include: Angola, Bolivia, Brazil, Colombia, Croatia, Ecuador, Mexico, Nepal, Paraguay, Venezuela, among others. It was identified in this process that the majority of countries who integrated environmental principles throughout their constitution have a significant relationship with the natural environment as a core part of the identity of the state: for example, Nepal and its relationship to the Himalayas, the South American countries listed above with the Amazon (Bolivarian Republic of Venezuela, 2009; Constituent Assembly of Bolivia, 2009; Constituent Convention of Paraguay, 2011; Government of Nepal, 2015; National Assembly of Ecuador, 2008; National Constituent Assembly of Brazil, 2014; National Constituent Assembly of Columbia, 2015; Republic of Angola, 2010; Republic of Croatia, 2010; United Mexican States, 2015). Further to this, there are also many non-binding clauses which encourage the integration of environmental priorities into other sectors without legally enforceable clauses: these can still help to establish norms without making formal law. While these clauses do not tend to include a right of citizens, and tend to be less enforceable language, they are important for norm and agenda-setting, and the elaboration of multiple more elaborate legal provisions can often demonstrate a more thorough consideration of environment and intergenerational equity on the whole.

Enabling Clauses

Many constitutions include a mandate for further formal legal provisions to be established by the government through the legislature or policy-making process which builds on the foundations in the constitution. The constitution sets the foundation upon which further, more detailed regulation can be developed (Ekeli, 2007). Some countries include clauses which state that the government must develop further regulation or institutions to build on the normative foundation of the constitution, making it mandatory, such as Kenya, Malawi, Morocco, Nepal, Norway, Paraguay, Slovakia, Slovenia, Swaziland, Tunisia, Venezuela, among others (Assembly of the Republic of Slovenia, 1991; Bolivarian Republic of Venezuela, 2009; Constituent Assembly of Tunisia, 2014; Constituent Convention of Paraguay, 2011; Constituent Assembly of Norway, 2016; Government of Nepal, 2015; Kingdom of Morocco, 2011; Parliament of Kenya, 2011; Republic of Malawi, 1994; Slovak Republic, 2014; Swazi National Council, 2005). While others, just elaborate on how these further legal and policy frameworks could be developed. Even where there is no legal requirement, creating space and remit for this priority is still significant. While these clauses relate the least to intergenerational equity, and

their significance to the implementation of intergenerational equity depends on the regulation or legislature itself, they are still important instruments to consider. In almost every case, countries have developed further environmental regulation or institutions whether there is a legal clause explicitly requiring that they do so. However, the extent to which these implement intergenerational equity appears minimal, but cannot be concluded on definitively from these findings.

Future Generations Clauses

Finally, and most significant to this research is the way in which constitutions explicitly reference future generations. This is done in two ways, either through provide rights for future generations, or for outlining the livelihood of future generations as a priority. Five constitutions outline explicit rights of a healthy environment for future generations, which provides a legal foundation for the implementation of intergenerational equity. In addition to this, 37 mention the need to protect the environment for future generations but don't include legally binding language. Two constitutions, Bhutan and Ecuador explicitly use the language of intergenerational equity (Kingdom of Bhutan, 2008; National Assembly of Ecuador, 2008). In addition two constitutions even elaborate on rights to nature or earth, which adds another dimension of complexity and potential enforcement (Callahuanca, 2012; Greene, 2017). The strength of these clauses varies significantly, however inclusion of this language in a non-legally binding way helps to set norms and agendas in way that paves the way for future stronger governance mechanisms to be developed.

The full list of clauses found in these 120 constitutions and the categorizations can be found in Appendix 10.7.

4.2 Outcome

It has been identified that it is not only the clauses which provide explicit rights for future generations that can be used to implement intergenerational equity, but that many of the other types of clauses can also be used in a legal setting to achieve this aim. The main way that outcomes were identified in this research was through court cases which work to defend the constitutional clauses outlined above which relate to intergenerational equity. In addition, searches were conducted through government archives and databases to try to identify further legislation, regulation or institutional action that had resulted from these clauses.

It was found generally that the countries with the most significant legal foundations in the majority of cases are not aligned with the places where court cases are developing as discussed in Chapter 5 or more formal institutions to implement this concept have been developed as discussed in Chapter 3. This comparison can be seen in more detail below in Table 7, which compares countries with court cases and institutions in the left column with types of environmental clauses present listed across the top and indicated in the matrix below. The far-left column shows the total number of clauses in each country where further governance mechanisms are present.

Table 7. Intergenerational Equity Court Cases Compared with Constitutions and Specialized Agencies

Countries with Court Cases & Specialized Institutions	Right to Healthy Environment	Non-binding environmental clauses	Explicit mention of future generations	Rights of future generations to environment	More elaborate legal provisions	Clauses enabling other legal or policy frameworks	Citizen responsibility clause	Total
Australia								0
Bangladesh		X	X					2
Canada								0
Ecuador*	X	X	X		X	X		5
Finland	X						X	2
France						X		1
Germany**			X					1
Hungary	X		X	X		X	X	5
India		X					X	2
Israel								0
Kenya	X	X	X		X	X		5
Malta								0
Namibia						X		1
Netherlands		X						1
New Zealand								0
Norway	X			X		X		3
Pakistan**								0
Philippines	x							1
Slovakia	X					X	X	3
Sweden*			X					
Tunisia*	X	X			X	X		4
United States**								0
Uganda	X		X			X	X	4
Wales (UK)								0

**Tunisia, Ecuador and Sweden have been included here because they have some form of institutions but it is not clear how and whether they are functioning, but their existence is significant in the context of this comparison.*

***Germany, United States and Pakistan have been included here as they have pending court cases.*

The key finding here is that there does not seem to be a relationship between clauses related to environmental protection, future generations or intergenerational equity and the implementation of further provisions or legal enforcement to operationalize these legal foundations. Therefore, constitutional clauses do not guarantee direct outcomes, but instead potential for outcomes. It is possible that the constitutions have had a significant role in agenda-setting or norm-building, but identifying this was outside of the scope of this research.

In addition, while this research found that there were more non-binding clauses related to the topic of intergenerational equity than there were binding ones, this did not contribute significantly to whether outcomes or effects were present. Understanding the effects of these non-binding clauses is a difficult task, however the existence of binding or non-binding language does not seem to have a significant influence on the potential for outcomes. While it might be assumed that binding constitutions result in more outcomes, contextual factors and complex governance systems make it so that it is often more complicated than this.

In the cases where binding clauses do exist these clauses have not been significantly implemented. Only two of the seven examples where there are rights of future generations have had court cases or specialized institutions working to enforce this. In addition, and more substantially, only eight of the 75 constitutions with legal rights to a healthy environment explicit in the constitution have actively sought enforcement of this through court cases. These figures undermine the feasibility of this mechanism as a significant way to implement the concept of intergenerational equity effectively.

It would require a much more extensive analysis of national policy contexts to draw conclusions about the impact of these non-binding clauses in setting national norms, agendas and priorities.

4.3 Impacts & Effectiveness

One of the key factors undermining the outcomes of this type of governance mechanism is the legitimacy with which the state sees its constitutional text. This is problematic for three reasons: first, with relation to the rule of law generally; second, with relation to the scale, scope and process of more detailed policy-making; and finally, the increasing role of non-state actors and competing agendas.

First, in a country where the constitution is not strictly adhered to in general, either in normative principles or in direct or formal rules and procedures, it is difficult to expect that any of the specific clauses would have a significant outcome. An elaboration on the state of rule of law across the globe is outside of the scope of this research, however, there is a trend that requires further analysis, which is that states which are newer tend to have longer, more specific and more detailed constitutions, but this level of detail and attention does not necessarily extend beyond the level governance to creating capacities to enact them. For example, the constitution of Norway, with minimal changes from its original state in 1814 is under 30 pages, while Columbia's, from 1991, with substantial changes up until 2015, is 146 pages long and includes many substantial references to environmental rights (Constituent Assembly of Norway, 2016; National Constituent Assembly of Columbia, 2015). Therefore, it is an oversimplification of the problem to conclude that a lack of outcomes from this governance mechanism represents a failure of it as there may be more complex dynamics taking place. In addition, a constitution with more normative significance may be the result of the context in which it was developed rather than political will or agenda.

Related to the differing level of detail found in different constitutions, there are also different applications of it in use. For example, in some cases once further policies and regulations have been developed, policy-makers or other governance institutions refer more frequently to these rather than back to the constitution. This research did not include this level of detail of examining the policy or regulatory frameworks within each country example which may have been developed with these constitutions as the legal or normative foundation, however some examples are in Appendix 10.2. However, in other cases, the constitution remains the main framework through which citizen's rights can be defended, and the elaboration of other policy or regulation is not enforceable by citizens and therefore less relevant in the context of the rights of future generations. Therefore, the significance of the constitution as a norm-setting and agenda-setting legal doctrine should be reflected on with relation to each specific case more thoroughly to understand specific outcomes and effects.

Finally, environmental clauses in constitutions are subject to limitations posed by competing priorities both inside and outside of the state borders. There is a conflict present between

competing priorities within almost every constitution, often economic, social development and environmental preservation. Many even explicitly state that policies and activities cannot threaten environmental rights in one section, and economic rights in another, without elaborating on how it is possible to reconcile these explicit conflicts. In addition, while constitutions may have explicit duties of the state to protect rights of citizens, or legally defined compensation for damage, they do not provide any legal framework for international or private sector actors to be included within this legal framework. While citizens have a responsibility to protect the environment in 59 constitutions, none mention the responsibility of neighboring countries, international organizations or corporations and their role. These factors can undermine the legitimacy and normative significance of both binding and non-binding constitutions.

The context in which constitutions exist is extremely important to their feasibility as well as legitimacy. In some cases, with more recent amendments or that have been more recently ratified, the inclusion of such clauses could be an effect of the changing political, social and economic priorities within a state rather than a cause of changes happening in national policy-making. For example, in Bolivia, the redrafting of the constitution which took place between 2005 and 2009 was caused by the social pressures to redraft the foundation of the state in a way that reflected the rights of Indigenous people more thoroughly, and environmental rights were included in this revision. These have been further developed since the 2009 adoption of this constitution, however the redrafting process was not instigated by a need to include environmental rights. This equally applies to the amendment process, as constitutions can be changed because of a range of driving forces.

Finally, while constitutions more than any other governance mechanism have the appearance of independence and accountability because many of them are drafted by independent constitutional assemblies with constitutional courts monitoring and scrutinizing their interpretation, if the citizens that constitutions are designed to give rights to do not engage with it to understand or defend their rights or if the principles and values do not become translated into general norms of the governance system, then these factors cannot be considered significant.

4.4 Discussion

The most significant finding of this section is the sheer volume of constitutions identified, and the lack of relationship found between detailed constitutional references and substantive action or results. In literature on this topic only 10-20 constitutions are mentioned as including reference to a right to a healthy environment and intergenerational equity, and this represents a very significant gap in knowledge and understanding on this topic.

4.4.1 Common Challenges

Rule of Law

The rule of law and the significance of legal doctrines in general, and specifically the constitution, varies in countries depending on their governance arrangements. While it was expected that this might be a barrier for effectiveness, and that this would manifest itself in this section would showing a bias towards this mechanism being more effective in longer established democracies, this dynamic is much more complicated than this. Firstly, there are more examples of constitutions from newer states, and these examples tend to include greater levels of detail and more legally enforceable rights and language. It is possible that this reflects the differing role of the constitution in each of

these states and the development of the governing norm over time. It may also reflect the legal advice given or state-building capacity support received at the time of writing by external actors.

Building on this, generally states which are newer have a more recent experience, and sometimes even ongoing experience, with upheaval and consequently rule-of-law is more contested. Therefore, adhering to their extensive and detailed legal constitutional frameworks can be a challenge. In addition to this, constitutions are benefit from different levels of significance in differing governance arrangements.

In addition to this, almost every state has factors governing it that are outside of a formal legal framework, such as free market forces, etc. While some constitutions provide a hierarchy, either in elaborating public ownership of resources, or the opposite, by stating the conservation of environment can't harm a free market, neither of these clauses adequately deal with the global free market and the way that this is forming an informal global trans-border governance mechanism which operates at a different level than state constitutions.

Finally, there is inevitably a relationship between the social, political and economic context and the enforceability of the constitution and therefore its effectiveness to implement intergenerational equity. Once a governance mechanism such as a constitution is undermined by systemic problems such as corruption, the enforceability of it as a whole comes into jeopardy.

State vs Individual vs Environmental Rights

Constitutions elaborate in different ways where responsibility resides. Some state clearly that it is the responsibility of both the state and individuals to protect the environment, while some specify that it is the duty of only one or the other. In addition, some clauses which sound legally binding upon states, only bind the state to work towards environmental conservation, but does not specify a state of protection.

A further dynamic to examine here would be to what extent states frame this topic as being about the environment or about the rights of citizens. An example of two extremes would be Ecuador and Tuvalu. While Ecuador has developed a further legal framework which provides formal rights to nature, Tuvalu gives rights to individuals who are threatened by the environment the right to leave (Government of Tuvalu, 1986; Greene, 2017; National Assembly of Ecuador, 2008). These represent two vastly different national contexts; however, their approaches are telling about what the core cause of the threat and concern is. It is unclear which of these three approaches is more effective.

4.4.2 Reflections & Recommendations

Despite the significant volume of constitutions mentioned in this section, it also has a significant bias towards constitutional democracies and countries with codified constitutions. For example, the United Kingdom, without a codified constitution has not been included in this analysis. Further to this, there is a further gap which has not yet been addressed in this section which is the role of supranational governance frameworks, such as the EU. The EU provides a legal framework which is binding for member states, and the role of this has not been examined with relation to this topic.

The key factor in the application of this mechanism to implement intergenerational equity is individuals or organizations instigating court cases. For any of these clauses to be upheld, they must be tested in court and enforced. A constitution can exist without being enforced if there is no initiative to enforce it. Therefore, the lack of effectiveness of this mechanism is likely down to the users, citizens, and not necessarily the state.

4.5 Conclusions

It was found that 120 countries around the world make some reference to environmental rights. Of this 120, 75 include the right to a healthy environment, 39 mention future generations in a non-binding way, and 7 mention explicit rights of future generations. Ultimately these clauses depend on their enforcement, and therefore the judiciary system is essential in this. The enforcement of these will be elaborated on in the next chapter on judicial decisions.

To assess the factors for effectiveness of this governance mechanism, they were divided into two categories, binding and non-binding as there were some key distinctions that need to be made in any assessment.

Table 8. Assessment of Factors of Effectiveness for Constitutions

Type	Effects	Independence	Legitimacy	Feasibility	Accountability	Normative Significance
Binding Constitutions	2	4	2	4	3	2
Non-Binding Constitutions	2	2	1	2	2	3

Averaging together each factor, binding constitutions score a 2.7 and non-binding score a 2. There were key differences with relation to the independence, feasibility, and the normative significance. First, where there is a binding clause this can function more independently because it is less reliant on other evidence, regulation or constitutional clauses to make it legally enforceable. Second, the feasibility of binding constitutions is higher because a binding, enforceable clause is less reliant on current contextual factors to be considered a legal right. Third, many of the most elaborate clauses about intergenerational equity were non-binding, thus the normative significance was often higher amongst those which were not the most binding or enforceable clauses.

Crucially, these conclusions demonstrate that in contrast to the arguments of a significant amount of literature (such as Anstee-Wedderburn, 2014; Ekeli, 2007; Tiihonen, 2015; Jörg Tremmel, 2006) there are legally enforceable clauses outlining the rights of future generations.

Finally, some barriers had to be drawn in this process to keep it within the scope of this research, therefore in-depth analysis about the strength of any constitution, the level of rule of law and the generally effectiveness of the government or governance system is not undertaken. In addition, states which are currently in a state of civil war, with the foundation of the state being contested, have been left out. As constitutions can constantly be amended and adjusted, this dataset represents the comprehensive picture as of January 2018 and it is recommended if the information were to be used in a significant way following this research it should be re-validated.

5 Judicial Decisions

5.1 Introduction

This section focusses on judicial decisions that seek to implement the concept of intergenerational equity at a national or state level. Each case will be explained through its description, the outcome of the case and the impacts that this has had on implementation of intergenerational equity in its context. This section also includes a short outline of cases that are relevant but currently still pending in their respective judiciary systems.

These cases were found by searching through databases, such as the International Court of Justice, and other national or local legal databases, searching through the scientific literature, and through google searches.

The cases that follow have been organized chronologically by their start date, because in the legal field precedents and temporal relations are important. Cases which were originally scoped into this research but have been excluded because of their lack of relevance can be found in Appendix 10.3.

5.2 International Court of Justice – Gabčíkovo-Nagymaros Project (Hungary/Slovakia)

5.2.1 Description

The International Court of Justice case settling the dispute between Hungary and Slovakia over the Gabčíkovo-Nagymaros Project in 1997 was the first moment to test the concept of sustainable development in an international court as an international environmental legal norm and principle.

The case centred around the dispute of the management of the Danube River and a joint development project of Slovakia and Hungary to construct a series of dams and barrages on the river along the two countries' border based on a Treaty from 1977 on the project. The conflict arose because Slovakia had built their side of the development project and Hungary refused to continue until environmental impacts were adequately studied and was consequently brought to the International Court of Justice. While the case was not instigated because of a concern for intergenerational equity, nor was it explicitly about climate change, although climate change was widely considered, because of the outcome of the case it is considered an important development in the legal application of intergenerational equity (International Court of Justice, 1997a).

5.2.2 Outcome

The outcome of the case was a ruling on the project as a whole, on the changes that Slovakia made unilaterally which broke the original Treaty, and finally on the future of the situation (Preiss, 1999). However, the case also explicitly references the need to take into account “new norms and prescriptions of international environmental law” (Republic of Hungary v. Slovak Republic, 1997). One of the points of conflict was around the idea that the emergence of new legal norms changed the circumstances of the Treaty of 1977 to such an extent as to make it no longer valid (Republic of Hungary v. Slovak Republic, 1997). It is made clear in the proceedings that these norms refer to both the norm of undertaking Environmental Impact Assessments as an obligation of such projects and adhering to the principle of sustainable development.

The conclusion of the case is perhaps more widely known for the additional remarks published by Judge Christopher Weeramantry. The additional remarks published following the case clarified the foundation of the claim that there are new international environmental legal norms, explaining that

decades of tradition and customary law, and UN soft law and treaty developments cases and policy substantiate the claim that there is a new norm to which national governments must adhere (Weeramantry, 1997). In addition, this statement discusses the challenge of inter-temporal conflicts, this case being an example of one where a different set of environmental norms existed at the beginning of the conflict than at the point of proceedings with the International Court of Justice. Weeramantry (1997) claims that this case, and all other inter-temporal cases, are subject to the legal norms at the time of the case, therefore sustainable development, the trusteeship or guardianship of the earth and intergenerational equity as legal principles apply (Weeramantry, 1997).

5.2.3 Impacts and Effects

In the context of the national application of this case, the effect was minimal – following the case the dams under discussion were completed, and no further impact assessment or measures for protecting environmental degradation were undertaken (Preiss, 1999). This could point to a fundamental design flaw in the International Court of Justice as an effective governance mechanism on environmental disputes. Critics point to this case as being a case resolved based on treaty law, even though it was fundamentally about local environmental issues. The International Court of Justice did not, and still does not, have enough expertise on this topic to understand the weight of this decision (Preiss, 1999). In the process of this research, the International Court of Justice was contacted about this and other cases, and the response was that the international court of justice had never ruled on cases related to sustainable development or intergenerational equity and that there were no in-house experts on this topic. As an institution which is the legal branch of the United Nations, with a plethora of international environmental laws and legal norms, treaties, agreements (both 'hard' and 'soft' mechanisms), a lack of in-house experts on the topics of these norms perhaps points to a lack of accountability and normative significance of the institution.

In the context of the global implementation of the concept of intergenerational equity, Weeramantry's explanation of the results of the case substantiates the claim that intergenerational equity is a legal norm. This case is referenced as a key moment in this development for the contribution to the normative significance of the concept and the potential of governance mechanisms to rule on this concept and therefore implementation.

5.3 Philippines Supreme Court: *Oposa v. Factoran*

5.3.1 Description

In 1993 Antonio Oposa and a group of 43 children took the Department of Environment and Natural Resources to court for excessive forest and rainforest deforestation due to commercial use. The case began in 1990 at a local court, the Regional Trial Court of Makati, where the defendants called on the government to end logging permissions in the country (Oposa, 1994). The case was dismissed after a year for not having a specific "cause of action" as it was not clear what the breach of the law was. However, the case was elevated to the Supreme Court in 1993 on a technicality, because the Makati court did not hear all the evidence for the case, for the purposes of the legal ethics and adherence to the law of the court system itself, the case was presented again (Oposa, 1994).

Once in the Supreme Court the case became about two core things: first, the fact that the government had issued more logging permission than was allowed, therefore an illegal action as the legal foundation of the case; the second, was the fact that this action violated the well-being of future generations and therefore intergenerational equity, which is a codified constitutional right (*Oposa v. Philippines*, 1993). The linking of a clear illegal action with a less-tangible right marks a key tactic of this case, and one that has been replicated in more recent cases.

5.3.2 Outcome

The outcome of this case in the Philippines Supreme Court was to limit government licenses for commercial logging, however the case has come to mean much more than this because of the grounds on which the decision was made. Oposa (1994) in his own reflection of the case outlines that the justification was founded six legal pillars. First, that the actions of the government violate the constitution, which explicitly references the right to a healthy environment. Second, they break the common-law doctrine of Public Trust, which sees each individual as a trustee of the earth for current and future generations. Third, they break a statutory law in the national regulatory regime, which states that the forests are for present and future generations. Fourth, they break civil law because the action goes against public policy. Fifth, it can be interpreted as a crime because it can be explained as “generational swindling”. Finally, they violate natural law and the right to self-perpetuation (Oposa, 1994). This extensive justification for the ruling is what is remembered from this case, rather than the ruling on licences for logging industry in the Philippines.

5.3.3 Impact and Effects

The impact of the case can be split into two parts, the impact in the Philippines and the impact on international environmental law. The ruling has had very little impact domestically and the policing and administration of the licensing and the logging industry behaviour is very much unchanged (Gatmaytan, 2003). Even Oposa (1994) himself admits that the case is more about politics and of an academic nature and is more widely known and understood internationally than it is domestically. In addition, there has not been much impact in the judicial sphere, as Gatmaytan (2003) points out that considering the ‘landmark’ status of the case, there have very few other cases in the Philippines that have referred to the precedent and the new principles and doctrines it supposedly established. Finally, there were new logging industry policies and regulations created around the time of the case, but because of the fact that these were put into place in between the cases appearance at the Matak court and the Supreme Court, it is not possible to attribute either the policy development or the impact of them to this ruling (Manguiat & Yu, 2003; Oposa, 1994).

In spite of the lack of local impact, the case is widely seen as one of the most important court cases on intergenerational equity and sustainable development across the world. The divergence between these two realities raises an important question about what it means for a court case to have impact. The case, which began shortly after the publication of Edith Brown Weiss’s first book on intergenerational equity, was the first case which used this language and line of argumentation in a legal setting (Rest, 1994). It is undoubtedly significant in a normative sense, in the way that it set agenda’s, and turned the concept of intergenerational equity into something that could be applied in a court; however, the lack of local effect threatens the legitimacy of the whole idea of implementing intergenerational equity through court cases. Finally, this case is about resources and sustainable development, it is often seen as also being a foundation of climate change litigation, however, the reference to climate change is very weak, and this seems to be further evidence that the international legacy of this case does not match the real impact of it.

5.4 Bangladesh High Court: Farooque vs Government of Bangladesh

5.4.1 Description

The case of Farooque vs the Government of Bangladesh began in 1994 as a case about the implementation of Bangladesh’s Flood Action Plan. The Bangladesh Environmental Lawyers Association, or as they refer to themselves, BELA, took up the case as a response to the complaints

and grievances they heard from local people living in the Tangail District. Between 1992-1993 individuals from this community had been expressing complaints about the way in which the Action Plan threatened their livelihoods with little opportunity for input or consent. Consequently, BELA, who had previously been outspoken on the issue, initiated the case on behalf of the individuals aggrieved by the activity of the Plan (“The case of Dr. Mohiuddin Farooque V Bangladesh,” 2017).

The case was originally rejected because the legal organisation, BELA, nor Dr. Farooque, could legally undertake the case representing the grievances of this community without being a part of the community themselves. The case was crafted around the way that the Flood Action Plan threatened constitutional rights of the community, such as right to life and a healthy environment, however the rights of Dr. Farooque were not being threatened and so he could not pursue the case (High Court of Bangladesh, 1995). The court ruled that if BELA could represent Tangail on this case that this would open up the “flood gates” for deluge of court cases which used this method (High Court of Bangladesh, 1995).

The case was appealed to the High Court and from the moment of the appeal the case became about something bigger than just the residents of Tangail, it became about who could stand in court against violations of the constitution and how people could be represented in court. The case cited the precedent of the Philippines case, *Oposa vs Factoran*, taking place in parallel as a justification for the appeal.

5.4.2 Outcome

The outcome of the appeal was significantly more about the way that the court system could be used than it was about the Flood Action Plan issue. The court ruled that it was possible for BELA and any individual or organisation to take up a court case about a grievance or constitutional violation which they did not experience (“The case of Dr. Mohiuddin Farooque V Bangladesh,” 2017). This was justified on the basis that a violation of the constitution against one individual, is a violation against all because of the contract and relationships between the constitution of a country and the people of country.

5.4.3 Impact and Effects

A ruling such as this paves the way for representation of future generations to be allowed in the court system in Bangladesh.

5.5 High Court of Kenya – Mr Peter K Waweru versus Republic of Kenya

5.6 Description

This Kenyan High Court case began in 2004 as a case about raw sewage being put into public water, harming the water source for locals and those downstream. This activity was claimed to violate the Public Health Act requirements because of its contamination of the water source. However, the case evolved into being a landmark for upholding the act as a violation of international customary law on sustainable development and intergenerational equity as well as the constitutional Right to a Healthy environment outlined in the Kenyan constitution (Peter K Waweru v. Republic of Kenya, 2006). In outlining its precedents and legal foundations it not only references national laws and constitutional rights related to public health and the environment, but it also references the Rio

Declaration, African Charter on Human and Peoples' Rights and the international principle of intergenerational equity, connecting a local dispute into the developing international customary law. While the case does not deal with climate change specifically, it gives significant legal stature to intergenerational equity and the rights of future generations, a concept mentioned in the Kenyan constitution without legally binding language and contributes significantly to the legal developments at a national level and discourse on this topic.

5.6.1 Outcome

The case rules that the government and the township must take responsibility for managing the water supply to maintain its health, and establish a management system and treatment for the source. In the outcome, the case specifically elaborates on the ways in which sustainable development and intergenerational equity can be balanced with intra-generational equity and the cost of implementing sustainable management systems for the long term (Peter K Waweru v. Republic of Kenya, 2006). It mandates that development costs should include managing the pollution of the development and takes steps towards clear operationalisation of this concept into local management of resources.

5.6.2 Impact & Effects

There are two key outcomes from this case which have the potential for longer term effects. The first is that the conflict at the core of this case is a conflict between two constitutional clauses, one about fundamental rights and freedoms, and the other about the right to a healthy environment. In the previous chapter on constitutions, this dynamic was identified as a challenging one, and this case provides an example of this conflict where the environmental clauses were upheld above others in conflict. It therefore sets a unique precedent in the context of many other states where decisions are made the other way around. The question of how to prioritise two conflicting constitutions rights of relatively equal weight is an incredibly difficult one, as illustrated by this case. In the end, the Kenyan constitution has significant binding and non-binding language around the right to a healthy environment, sustainable development, environmental protection and specifically the importance of future generations (Government of Kenya, 2010). This case upholds those normative principles in the constitution which are often difficult to uphold in court and therefore is a significant precedent to set.

The second key outcome is that the case locates the Kenyan constitutional rights for future generations, and the environmental clauses being upheld in this case in the context of many international legal norms, principles and agreements. The connections drawn here between the local applicability and the international discourse can help to improve the status of of the concept of intergenerational equity as an international legal norm.

5.7 New South Wales Land and Environment Court (Australia) – Peter Gray versus Minister of Planning

5.7.1 Description

The “Anvil Hill case”, as it is commonly known, was a case between Peter Gray, an environmental activist in New South Wales and the Minister of Planning in conflict over the planning permission for a new coal mine to be built in Anvil Hill, New South Wales, Australia. Peter Gray, working with a local climate action campaigning group, challenged the environmental assessment that had been made publicly available for the proposed coal plant in the region. The case, ruled in the state’s Land and

Environment Court, ruled that the assessment was not adequate, mainly because it did not consider Scope 3 emissions (indirect emissions resulting from the burning of coal) (Law & Environment Ontology, 2017). While the case had specific technical outcomes related to the environmental impact assessment it symbolized a bigger victory for the climate change movement in the region and in Australia more broadly.

5.7.2 Outcome

The case resulted in three major outcomes. The first is that a precedent was set for ‘indirect emissions’ of coal mines (emissions from burning the coal to make energy for a grid network) to consequently need to be included in the environmental impact assessment of coal mining (Rose, 2007). This is a significant technical development in the way that Environmental Impact Assessments and emissions accounting in industry in Australia needs to take place from this case forward. (Law & Environment Ontology, 2017; Rose, 2007).

Second, the case ruled that the Minister of Planning had disregarded two core legal principles in relation to environmental law, the precautionary principle and the principle of intergenerational equity (Gray v. The Minister of Planning and Others, 2006). This decision places intergenerational equity firmly in the legal landscape in Australia as a legal principle to be defended.

Third, the ruling was the first to make a decision based on the existence of causal relations between coal mining and climate change, pointing out that the ‘downstream emissions’ from mining must be included and that the whole development must be considered in the context of global climate change (Gray v. The Minister of Planning and Others, 2006; Rose, 2007). It therefore formally linked long term climate change impacts to the coal mining industry.

5.7.3 Impact and Effects

The impacts of the case can be separated into two conflicting narratives: the first, the narrative of climate change movement more generally; the second, the narrative of the institutional setting in which the government deals with climate change.

With regards to the first, this case is part of a longer-term struggle between climate change activists and the coal mining industry in New South Wales and Australia more generally. The case is framed extensively in the media as being a battle between David and Goliath (Marohasy, 2006). Even Gray has admitted that the case is more about the longer term power dynamic than the specific victory in Anvil Hill (Rose, 2007).

Second, while the technical development related to the environmental impact assessment remains an important one, Judge Pain also ruled that including climate change, environmental sustainability, and indirect emissions does not mean that these new factors totally outweigh all of the other considerations, just that they are important considerations (Gray v. The Minister of Planning and Others, 2006). Therefore, with this language, an important space is left for the government to continue permitting coal plants to be built, while still adhering to the new standard of environmental impact assessments. In fact, the Minister for Planning himself admitted that this will not have any impact in how he interprets policies and the permits he approves (Rose, 2007). Reflecting on the case, the current Environmental minister claimed “what we need to do as a world is keep mining coal” (Barlow, 2006). This conflict is similar to the case in Kenya, where two conflicting priorities, environmental rights and the economy, are considered and the economic priority overpowers environmental rights or priorities. Even though Gray technical won the case, this did not change the

order of prioritisation, and therefore it is difficult to see how even a landmark ruling such as this can have impact in a political and institutional environment such as this.

Finally, it is important to address the bigger ramifications of this ruling. This case demonstrates a significant point in the consolidation of the concept of intergenerational equity to becoming a legal principle. Not only is it literally referred to as such, the way in which the Judge elaborates the reasons behind including it demonstrates normative significance of this ruling (Gray v. The Minister of Planning and Others, 2006). The case also contributes to a bigger narrative about the difficulties in operationalising intergenerational equity by concluding that “Simply raising an issue such as climate change/global warming is unlikely to satisfy a requirement that intergenerational equity or the precautionary principle has been considered.... The fact that it is difficult to quantify an impact with precision does not mean it should not be done” (Gray v. The Minister of Planning and Others, 2006, p 42).

5.8 India Supreme Court: Goa Foundation versus Union of India & Others

5.8.1 Description:

The Goa Foundation versus Union of India case began in 2012 when the local campaigning group filed the public interest litigation because of the continuation of illegal mining in Goa. Tensions had been developing long before the case over the local ramifications of the increasing ore demands from development in China, such as bad-practice in mining and increasing local environment degradation. In 2010 a special commission, the Shah Commission was set up by the government in to examine the problem, which resulted in the formal banning of mining in the region based on environmental sustainability and sustainable resource use justifications, setting the conceptual foundations and providing some legal and political strength for the case (Ministry of Mines, 2017).

Initially, the case was filed in parallel to the High Court of Bombay and the National Green Tribunal which was then raised to the Supreme Court. Filing a case with the High Court focussed on the constitutionality of the case, while the Green Tribunal focussed on the environmental degradation aspects (Goa Foundation & Peaceful Society v. Union of India & Others, 2013). In this way, this case used both narratives core to the concept of intergenerational equity, by evoking the human rights narrative through the ‘Right to Life’ clause in the constitution in the High Court and the trusteeship of the planet line of argumentation in the Tribunal, making the case firmly grounded in the nuances of the concept (Constituent Assembly of India, 1949).

The case challenged the continuation of illegal mining in Goa, which continued even after the ban by the Shah Commission, and called upon the constitution’s Article 21, which established the ‘right to life’ (Goa Foundation v. Union of India & Others, 2012). While the Indian constitution does not refer explicitly to intergenerational equity, Article 21 had already been used in many environmental cases in India and had well-established linked to combatting environmental degradation (Sankar, 1998). In addition to the foundation in constitutional law, the case argued its relevance to international norms set by the UN and its relevance to customary law, rooted in religious and traditional norms of the region for present generations to be guardians for future generations (Basu, 2014).

However, what makes it unique is the way that the case was explicit about how it operationalized intergenerational equity and how that has consequently manifested into real world changes. This was a result of the fact that throughout the process, the terminology and narrative began to change, and inclusion of concepts of intergenerational equity and sustainable development began to be integrated into the discussion such that the clear operationalization of what this meant in this context became the outcome of this case (Goa Foundation v. Union of India & Others, 2013).

Finally, while the Goa Foundation case centred around mineral mining in the state of Goa and its relation to intergenerational equity in the region, connections have been and continue to be made resource use, sustainability and climate change more generally. It is also a significant example of a case in India fought on the grounds of intergenerational equity, which involved multiple governance mechanisms and developed significantly into further impacts.

5.8.2 Outcome:

Initially, the case was resolved through a court order issued in November 2013, which explicitly acknowledged the intergenerational equity concerns of the issue, and marked the beginning of investigation by an appointed Expert Committee into appropriate cap and definition of carrying capacity on the mining in Goa and further resolution of the issue (Goa Foundation v. Union of India & Others, 2013).

Through this investigation discussion began about the concept of a Permanent Fund as a way of implementing intergenerational equity through the income generating from mining in the region. The final report of the Expert Committee, concludes that the introduction of a Permanent Fund was required and drafting began, with the Goan Iron Ore Permanent Trust Scheme outlined in court order in 2016 (Goa Foundation v. Union of India & Others, 2016). Thus, not only does the court case establish in its final verdict that intergenerational equity must be upheld in the resource use in the region, it also establishes the mechanism of a permanent fund as a way to operationalise and implement this concept 'on-the-ground' in Goa. It is clear from the documentation of the Goa Foundation that this case is just the beginning of their work on this topic in India and further afield and so all the outcomes cannot yet be summed up here.

5.8.3 Impact & Effectiveness:

It is difficult to assess yet the impact of this case because negotiations on the topic are still on going, however, some key aspects will be pointed out. First, the impact of this case seems to be significant, both in terms of the role and the value of the concept of intergenerational equity as it has been applied, and in terms of the lability of the court system to implement this principle. The fact that the case has amounted to a new governance mechanism to implement intergenerational equity that is quickly being put into practice shows that the direct and immediate impact and effectiveness of using the supreme court to deliver results. Also, this case demonstrates the way that links can be drawn between different governance mechanisms for effective implementation in a way that many other examples do not.

However, this must be caveated, with the reality that the impacts of this case, are largely a result of ineffective governance elsewhere. A case such as this would not have escalated to the supreme court if local authorities were able to effectively implement the initial ban on mining in the region after the initial outcome of the Shah Commission. Without the continuation of illegal mining, there was no case through which the concept of intergenerational equity could be included in the ruling and orders following (R. Basu, personal communication, July 17, 2017). In addition, the National Green Tribunals, which exist to deal specifically with environmental problems, through which this complaint was first lodged, seem to have no significant power on the issues which are supposed to fall under their remit. In addition, through this case, it appears that many other environmental regulations are under threat or disregarded, which put into question the effectiveness of the regulations. Finally, this case depended on many other precedents and it is by no means the first case to rule in favour of the principle of intergenerational equity, neither is it the first case to use the same constitutional amendments to defend environmental protection, nor is it the first case to

suggest as an outcome a Permanent Fund, but no others seem to be as successful in this one (Abraham & Abraham, 1991; R. Basu, personal communication, July 17, 2017). While this case may have important impacts, the whole governance system appears to be lacking. It is, of course, yet to be seen whether the regulations on mining are upheld and whether the new Permanent Fund is implemented according to its design.

Finally, this case has benefited particularly from a specific actor, an NGO, Goa Foundation and the Goenchi Mati Movement. They have played a key role, from initiating the case, to drafting the Permanent Fund proposals, etc. (Goenchi Mati Movement, 2017a, 2017b). Their role in this case points to a key flaw in the judiciary governance mechanism for implementing intergenerational equity – the whole institution depends on a petitioner to instigate it – this will be discussed further in the discussion.

5.9 High Court of Uganda: Kakuru versus National Environmental Management Authority

5.9.1 Description

In 2012 Greenwatch, an environmental rights NGO in Uganda began a case that in many ways sought to replicate that of Oposa in the Philippines in the context of Uganda. The case included 4 minors, who sued the government on behalf of their own lives, their unborn children and out of public interest. They claimed that the government has caused harm and suffering to the people, present and future, and that they have not maintained their commitments on climate change adaptation and mitigation.

The trial seeks to prove that the government is responsible for loss of life, property, livelihoods, and socio-political discontent by listing a number of weather and climate related incidents from storm impacts to food shortages (Kenneth Kakuru v. National Environment Management Authority, 2015). In doing this, it makes multiple references to environmental rights and individuals rights as outlined in the Ugandan constitution (Chapter 4), including the public management of natural resources, the right to a healthy environment (Chapter 15), the sustainable use of resources and many more (Constituent Assembly of Uganda, 2006).

The case calls for compensation for victims of climate change, ordering direct mitigation measures, including but not limited to carbon accounting and implementation of international treaties, and sustainable management of resources for future generations, validating the concept of the rights of future generations Kenneth Kakuru v. National Environment Management Authority, 2015.

5.9.2 Outcome

This case was due to go through the court system in 2015, however, there is no record in the High Court's public information or available through Greenwatch of the status or the conclusion of the case, therefore, no outcome can be described in this research.

5.9.3 Impact & Effects

It is unclear whether this case was processed and decided upon and therefore no conclusion can be drawn about the impact, however the way that the case is crafted around constitutional rights to build a justification for the rights of future generations to be defended in this case has normative significance.

5.10 District Court of The Hague: Urgenda vs Dutch Government

5.10.1 Description

Dutch environmental NGO, Urgenda, and 900 other plaintiffs took the Dutch government (Kingdom of the Netherlands and Ministry of Infrastructure and the Environment) to court for not taking sufficient action on climate change in 2013. The case is founded on Urgenda's claim that the level of emissions are unlawful because of a breach of rights, violating statutory duty, or violation of general duty of care (van Berkel, 2015). This is based on the way that it violates the 'no harm' principle, the legal obligations through the UNFCCC, including the government's own climate change regulation, the European Human Rights Convention, and on the basis of endangerment (van Berkel, 2015).

The case is also crucially founded on the idea that the "Intergenerational aspect" of sustainability and climate change is what gives Urgenda the "grounds" for standing in the case (van Berkel, 2015). The case references international obligations and other national legislations and regulations that point to this principle as a foundation for action on climate change and commitment to emissions reduction. The case concluded in 2015 to find that the government was in violation of these rights and legal principles.

5.10.2 Outcome

The outcome of the case found that the Dutch government must reduce climate change emissions by at least 25% by 2020, which is reinforcement of the government's climate change targets. It substantiated this conclusion by explaining that based on the science presented before the court, which both parties agreed to adhering to, that there were three core elements: first, acceptance of the 2 degree target and that climate change is a dangerous threat it is "scientifically necessary" for the Netherlands to reduce emissions; second, that its failure to do so violates the constitution which outlines the duty to protect the environment; third, that it is within the state's power to do this and achieve these emissions reductions (District Court of the Hague, 2015).

In addition to these core reasons, the ruling also outlines that while the international treaties, such as UNFCCC, and the European Human Rights Convention are important for defining principles, they are not grounds on their own for the legal ruling. However, the case elaborates on the importance of three principles: the precautionary principle, the sustainability principle, and the equity (both inter- and intra- generational) principle. The ruling states that these legal principles are at play here, though not legally binding (District Court of the Hague, 2015).

5.10.3 Impacts and Effects

Urgenda themselves call the case "the first case in which regular citizens have managed to hold their government accountable for taking insufficient action to keep them safe from dangerous climate change" (Urgenda, 2017). While this is technically questionable, it is the first time a court has ruled about what is a scientifically acceptable level of responsibility and activity for a national government to take on climate change (Cox, 2014). The fact that the case used specifics such as 2 degrees and a specific target and ruled this as "scientifically necessary" is a significant development in the way that intergenerational equity can be operationalized through court cases. In this context, the case is exceptional and speaks with an amount of authority, legitimacy and weight that no other court case had done yet.

However, initial positive conclusions about the case must be held with caution because around a year after the ruling, the Dutch government announced the beginning of an appeal process to

overturn the case (“Cabinet begins implementation of Urgenda ruling but will file appeal,” 2015). This announcement even came two months before the Paris Agreement, which the government participated in negotiating, celebrating and complying with. The inconsistency of policy and government backlash on the case and complying with the court order shown by the appeal process makes it more difficult to come to conclusions about the impact.

The final crucial element to this case is that following its example, a similar NGO in Belgium has launched a case that is attempting to do the same thing in the Belgian judiciary system (Urgenda, 2017). Therefore, it may be the case that the Urgenda law suit is the beginning of a much bigger movement, in which case’s the impacts internationally could far outweigh the dynamic within the Netherlands, but only time can tell. The role of this case in new and emerging developments is discussed more with relation to the pending cases outlined in 5.12.

5.11 Lahore High Court (Pakistan): Asghar Leghari v. Federation of Pakistan

5.11.1 Description

Ashgar Leghari, local Pakistani farmer, sued the Government of Pakistan after years of failed crops due to extreme and erratic weather for not implementing their National Climate Change Policy in 2015. Pakistan has been suffering from increasing climatic variations and severe weather that has been resulting in flooding, droughts, and consequently food and water insecurity (Wentz, 2015). The National Climate Change Policy and framework for Implementation of Climate Change Policy (2012-2030) are government policy and part of the countries commitment to the international climate change frameworks (Environmental Law Alliance Worldwide, 2017). The court case is an attempt to hold the government to account for this policy commitment because the consequences are threatening the livelihoods of people in Pakistan.

Ashgar Leghari’s petition claims that the government violates the constitution by breaking clauses that establish the fundamental right to life, which the case argues includes the right to a healthy and clean environment, and right to human dignity (Ashgar Leghari v. Federation of Pakistan, 2015). There is not a specific right to a healthy environment establishing in the constitution, but the case makes the argument that these are essential to the right to life, and that the status of this right in the international context makes it defensible in a Pakistani court. In addition, he claims that the government violates the national constitutional principles of social, economic and political justice, as well as the international principles of sustainable development, the precautionary principle, intergenerational equity and the public trust doctrine (Ashgar Leghari v. Federation of Pakistan, 2015). This argumentation makes the case grounded in both the domestic legal context and the international legal context around justice, environment and intergenerational equity.

5.11.2 Outcome

It was ruled that the government had not clearly taken the outlined immediate action on their climate change policy and legislation and had violated the constitution. As a response, and as part of the case, focal points were established in certain government departments and a new Climate Change Commission, designed to monitor and scrutinize implementation of the Climate Change Policy, was established in the court order (Ashgar Leghari v. Federation of Pakistan, 2015).

5.11.3 Impact and Effects

In spite of a clear ruling and a clear output on the case, two years later, it is not clear that the Climate Change Commission has even yet been formally established, let alone made any impact. While media sources proclaim the success of this outcome as an immediate effect of the case, there is no evidence that this Commission exists. In addition, recent public criticism of the ability of the court to implement changes related to environmental programmes has included this case, amongst a list of other in the past decade which have had a ruling related to environmental concerns but no action to implement the result (Hussnain, 2017). Further investigation reveals that in 2011 a similar body called the Prime Minister's Climate Change Committee was proposed, but not implemented, as a part of an extensive proposal about robust institutional developments and arrangements for Pakistan (Ramay & Khan, 2011). In addition to this, government representatives demonstrated the lack of legitimacy that a case such as this is seen with: the Joint Climate Change Secretary initially stated that he would not be able to assist the court with this case; and other government representatives contributed to the tone by explaining that Pakistan is a climate change victim and reject the claims of any wrong-doing (Ashgar Leghari v. Federation of Pakistan, 2015). It is hard to conclude that a case, or even the whole court system, can have much significance or effects on the problem if the government officials involved in the case try to avoid it entirely.

In this case, much like other court cases, the biggest weakness is in how the decisions are implemented or enforced. While police are often seen as the enforcement mechanism of the court, it seems inappropriate for the police to play a role in enforcement of a Climate Change Commission and so this kind of enforcement isn't appropriate for this kind of court cases. Thus, a method of enforcement may be necessary in this and many other cases.

5.12 Cases in Development

5.12.1 Pakistan Lahore High Court Green Bench: Rabab Ali vs Federation of Pakistan & Others (pending)

In April 2015 7-year-old Rabab Ali, represented by her father, filed a petition against the state of Pakistan and their Province for violating the constitutional rights of the younger generation and future generations because of the impact of their actions on climate change and failure to address it (Rabab Ali v. Federation of Pakistan & Others, 2016). Similar to other recent cases referenced in this section, this case does more than just rule on climate change, it is the first case in which a minor has filed a public interest litigation in the country (Ebrahim, 2016). It is not the first case in Pakistan holding the government to account on climate change, but it progresses on the arguments used in the case mentioned in section 5.11 by specifying the constitutional rights of future generations and the Public Trust Doctrine. The case underwent some disagreement as the Supreme Court tried to argue that it was not possible to construct a case in such a way, but this has been progressed and it is now pending with the Lahore High Court Green Bench with other environmental cases.

5.12.2 US (Final Court TBC): Juliana vs United States of America (pending)

In the summer of 2015, a group of 21 young plaintiffs (aged 8-19 at the time) along with an advocacy organisation (Earth Guardians) filed a law suit against the United States Government, Ministries and major fossil fuels businesses in the US claiming that their lack of action on climate change threatened their constitutional rights to life, liberty and property and violates the Public Trust Doctrine (District Court of Oregon, 2016). The plaintiffs declare themselves as defending the constitutional rights of their generation (young people) and declare themselves guardians of future generations in this trial. Between 2015 and 2016 the defendants attempted to dismiss the trial or

remove themselves, however, two subsequent judges have denied motions to dismiss. Following this, the case was heard in the local appeals court in December of 2017 and is now awaiting a decision about whether it will be allowed to continue to trial.

This case follows the model of the *Oposa vs Factoran* case in the Philippines where young people were involved in defending their rights and those of future generations and evokes the fundamentally inter-temporal nature of constitutions. However, because of the political context in the United States at the time of the case (the election of Donald Trump, the rising climate denial in public office, and the country's withdrawal from the Paris Agreement), it has come to and will continue to be about much more than intergenerational equity.

This case takes place after an earlier case, *Alex L. vs McCarthy*, which was filed in 2011 was refused to be heard by the Supreme Court in 2012. The refusal of the 2011 case to be heard as compared to the various responses from courts and judges insisting that this current case go to trial is a demonstration of how far the federal government has come on this topic in the past five years. The 2012 case was dismissed largely because the court felt it was not the right body to rule on climate science and it ruled that there was no federal Public Trust Doctrine, only state-level (*Alec L. & Others v. McCarthy & Others*, 2011). However, in 2016, the case is now founded on total agreement about the science and facts, but the question over US government responsibility for a global issue remains (Parker, 2017). However, the change in administration could prove detrimental to the new status quo which has been developed that this case is built on.

5.12.3 Norway Supreme Court: *Greenpeace Nordic & Nature and Youth vs Government of Norway* (pending)

On the back of a change in the state constitution in 2014, which meant that there was now a legal obligation of the state to protect the environment and resources for future generations, a case was filed by a group of young people and two other environmental NGO's working in Norway in 2016 (*Our Children's Trust, Nature and Youth, & Greenpeace*, 2016). The case focusses specifically on the legality of the Norwegian government issuing licenses for oil exploration in arctic regions where this is not yet any infrastructure or related activities taking place. This, therefore constitutes an expansion of the oil and gas exploration, and the ramifications of this would be a violation of the constitution (*Greenpeace Nordic & Nature and Youth v. Government of Norway*, 2016). The case took place on November 13th to 22nd of 2017 and the resolution was made public in early January 2018 that the court decided that the government was not violating the constitution. At the time of trial over 2500 Norwegians had donated money to cover the cost of the case, and the country's sovereign wealth fund requested to divest over 35 billion from oil and gas against the backdrop of this upheaval (Nelson, 2016). The case is the first test of the new article in the state constitution, and represents a conflict between two of Norway's defining features: oil and natural environment. This case is included here as pending because the verdict was only announced days before this project was completed and so no further analysis of the case or impacts could take place.

5.12.4 India (Final Court TBC): *Pandey vs Union of India & Central Pollution Board* (pending)

In March of 2017, 9 year old Rihima Pandey with support of Dinesh Pandey filed a case against the Indian Government and Pollution Board to the National Bree Tribunal which asserts that the government has violated the Indian Constitution, the Public Trust Doctrine, the principle of Intergenerational Equity and over 30 years of environmental legislation and regulation (*Ridhima Pandey v. Union of India & Others* . The case cites *Juliana vs United States* as a relevant example in the petition. This case is still pending and so no more information is available.

5.12.5 Germany (Final Court TBC): Lliuya vs Rheinisch-Westfälisches Elektrizitätswerk AG

In November 2017, a local court in Hamm, Germany accepted a case from a Peruvian farmer from Huaraz against the German energy company RWE. The case claims that RWE, playing a large role in climate change due to current and historic emissions, is to blame for the shrinking of the Pastoruri glacier and the resulting flooding of Lake Palcacocha and future water shortages for farmers in this region. While there are other cases against governments, there are no other cases which are cross border and against a company, instead of government, such as this one which have been accepted into the court system. Remarkably, the case seeks only \$20,000 to support flood prevention, but if this concession is made it makes a much more significance shift in accepting responsibility which could be pivotal in climate governance and operationalizing intergenerational equity (France-Presse, 2017). The case was taken on by the court in Hamm in the end of November 2017 and is still pending, and so no more information is available.

5.13 Discussion

Despite the opportunity presented by the volume of constitutions and national legal frameworks through which enforcement of environmental rights could take place, there are surprisingly few examples of cases where these clauses are being tested or put to force through a court system. This on its own is a key conclusion of this research, but there are also important nuances in the challenges of effectiveness for this governance mechanism and the opportunities for increased output and effects.

5.13.1 Common Challenges

Enforcement

The biggest barrier to judiciary decisions being an effective means to implement intergenerational equity in a national context is the lack of enforcement following court decisions. This is particularly exemplified by the Indian example, where a clear ruling on implementing intergenerational equity, with an extensive, clear, mandatory, framework was developed for implementation through multiple cases over decades of development, however, on the ground these decisions are not being enforced (R. Basu, personal communication, July 17, 2017). This was also highlighted as a key problem with the Indian system which sees vast numbers of environmental cases through every level of court, but with very little change. This problem highlights how difficult enforcement of legal norms and principles can be if they are not adequately translated to policies, strategy, budgets and implementation.

Specialist Courts v Supreme Courts

In some cases, there have been specialist tribunals or courts developed specifically to deal with environmental cases, for example in this research in Australia, Pakistan and India all have environmental courts. The challenge posed by this institutional design of the legislative system is like ones mentioned in previous chapters and sections: What is the specific enforcement mechanism for an environmental court? And does isolating the problem help to solve it? Does it decrease the significance of the case to take an environmental case out of the regular court system? These are all questions which cannot be answered sufficiently here through this research, but are perhaps important aspects to consider in understanding the effectiveness of different court systems in their ability to implement intergenerational equity.

Inter-state conflicts

Climate change is a transboundary issue, therefore, dealing with it through a national court system limits the scope of the problem and solution found for each case. The International Court of Justice is seen as the key way to solve transboundary environmental issues; however, this depends crucially on both countries choosing to participate. In the case of small island states, many of which have expressed a desire to take other countries, like the United States, to court over the damage they've caused and will cause because of climate change (rising seas and increase and strength of storms and extreme events) a case is unlikely to be agreed upon by the other party. The example of the pending case in Germany between RWE and a Peruvian farmer, represents a bold new direction for this kind of litigation and one which could set an important precedent for other transboundary cases. If this kind of case, which is based on the transboundary impacts of climate change, could hold up in court, this could be a way around the challenge of engagement through the International Court of Justice.

5.13.2 Reflections & Recommendations

In the last couple of years there has been a significant surge in cases which seek to repeat the method and victory of Oposa in 1993, where young people try to implement intergenerational equity of climate change by defending their own rights for their future and the rights of future generations. This may be due to many factors such as: the increasing awareness and priority of climate change, various international and national political developments, and the changing role of youth activism. The method to defend not the rights of future generations, which is inconsistently established across the world, but the rights of the present young people to life in the future poses a strong case. The 'Right to Life' is in fact the constitutional clause which has been used by hundreds of court cases in India to win cases on environmental issues, and exists in many more constitutions than the right to a healthy environment. Therefore, its application to the rights of children and young people, could be an effective way to enforce the rights of future generations through court systems in a meaningful way.

5.14 Conclusion

This research found seven examples of court cases which upheld the legal concept of intergenerational equity. As demonstrated by the examples of cases still in development, this is an emerging new mechanism to be used to enforce rights and implement intergenerational equity and it is likely that there are many more examples in the pipelines by organizations like Greenpeace, Friends of the Earth, ClientEarth and Our Children's Trust. While these cases set precedents as well as enhance and build a more elaborate legal framework, they do not address the core challenge, which is implementation of the outcomes. Without solving this one key challenge, this mechanism cannot be comprehensively effective.

Table 9. Assessment of Factors of Effectiveness for Court Cases

Effects	Independence	Legitimacy	Feasibility	Accountability	Normative Significance
1.5	2.4	1.8	1.8	1.4	3.2

It is because if this that on average court cases as a mechanism has a much higher score for normative significance than the other mechanisms, and than the other factors for assessment. The way the cases are built, what they are defending, and what they have the potential to be is significant in every day. However, their implementation and enforcement of their outcomes is lacking on the whole. Even where there are significant results, such as in Australia and India, these outcomes are not enforced, and in the Australian case, opening discussed as being ineffective. In addition, the effectiveness of this mechanisms is highly linked to the potential of another, state constitutions. If judicial decisions are not an effective way to enforce the rights provided for in a constitutional framework, then the power of a constitution to implement intergenerational equity is decreased. Even the most elaborate legal clauses on explicit rights of future generations become less significant if the court system cannot enforce a decision to uphold these rights. In conclusion, this mechanism remains on that has much potential to be an effective way to implement intergenerational equity, but the current examples do not deliver as they could on this.

6 Youth Representation

It has been proposed both in theory and practice that youth can be used a proxy to represent future generations in decision-making to implement intergenerational equity in a governance system. This is called for by non-governmental organizations, studied by political and psychological theorists and even implemented by some governments through the mechanisms discussed here. There is significant theoretical debate over whether youth can represent future generations better and whether this type of governance mechanism is an impactful one in general, however, empirical studies are lacking, specifically in the context of climate change (Karnein, Roser, Karnein, & Roser, 2015). Most of the research done on this topic is in the field of political or social behavioral theory on whether youth can overcome short-termism to increase representation of the future in a political arena. There is not significant research into understanding the impact of these mechanisms as they exist and how they could be an effective solution for intergenerational equity (Bidadanure, 2015). Therefore, while this chapter seeks to move beyond the theoretical understanding of youth representation as a means to increase long-term perspectives in governance, this is still a very new field and it still lacks the same volume of information as the other mechanisms.

Of all the categories in this research, information on youth representation mechanisms was the least forthcoming. There are a variety of reasons for this which will be discussed in Section 6.5, however, because data and information was difficult to get, the scope and volume of information available for each mechanism varies between other types of mechanisms studied in this research.

6.1 UN Youth Delegate Program

6.1.1 Description

The UN Youth Delegate Program provides a way for young people to participate in decision-making by including youth delegates in a country's official delegation to the UN, either through the General Assembly, the Commission of the Social and Economic Council, the Commission for Social Development, or the Commission on Sustainable Development (UN Division for Social Policy and Development: Youth, 2017). Although the concept for the idea and the format came from the United Nations itself, the management and administration of the delegates and their participation takes place by national governments and national delegations to the UN (Shepherd, 2015; UN Division for Social Policy and Development: Youth, 2017). The United Nations "support youth participation... because it leads to more inclusive and effective policy and programmatic responses to the problems facing young people"(Shepherd, 2015). However, the implementation of this program depends on national government willingness to participate and so there has only ever been a small number of countries that have participated in this youth representation mechanism, and an even smaller number that has ever specifically chosen to include youth representation to the Commission on Sustainable Development. While the mechanism is about participation in the international context, the program is run domestically, making it linked to domestic policy on youth representation and intergenerational equity. In recent years Thailand, Switzerland, Sweden, the Netherlands, Australia, Germany, Bulgaria, Finland, Slovenia and Belgium have sent youth delegates to the UN in some capacity (German United Nations Association, n.d.; United Nations Association of Bulgaria, 2015; United Nations Association of Sweden, n.d.; United Nations Association of Thailand, n.d.; United Nations Youth Association of Australia, n.d.).

In spite of little uptake globally, the mechanism is a key mechanism for youth representation, and the United Nations is explicit about the value of this both in materials about the program and in the first World Program of Action for Youth, which includes participation and representation of young people as a key way to address and promote intergenerational solidarity (United Nations, 2010). This program is framed within the context of the broader UN goals and framework on youth (Shepherd, 2015). Through this broader policy framework, it relates to both climate change issues and intergenerational equity, however, the direct combination of these topics is not explicit in this mechanism. Those representatives which work specifically on the Commission for Sustainable Development do have a specific remit on climate change, while for the others it would be included more broadly under their economic and political remit.

6.1.2 Outcome

Expectations of outcomes from this mechanism are high, with very little evidence that any of these outcomes are met. Some of the expected outcomes include increased intergenerational solidarity, increased inclusion, improvement in decisions on youth issues, and increased national youth engagement in civic life (Shepherd, 2015). However, there is no formal or informal monitoring, data collection or evaluation process for the mechanism. It is possible that national governments undertake evaluation processes, but these were not accessible, identified nor forthcoming when requested.

The outcome depends largely on the implementation per country because this depends how well the post is embedded and supported and this differs per state. In the example of the Netherlands, the post has been institutionalized since the 1990's and there is significant societal, financial and political support as well as a legacy of trust and cooperation that facilitates effective collaboration and significant impact. The youth representatives from the Netherlands are not only well-embedded the national sustainable development and climate change work, but also clear elaboration of the way that the mechanism is a key form of intergenerational equity is present (M. van Deursen, personal communication, November 6, 2017). However, this example appears to be the exception, rather than the rule as where information on output could be found, for many of the programs, significant emphasis was put on engagement with youth domestically, so that the youth representative could be a representative of other young people, rather than a representative or advocate for future priorities. In addition, it was not clear that there were many other countries where the representatives had any impact on decision-making at any level.

6.1.3 Impact & Effects

Without monitoring or evaluation, it is difficult to conclude that any of the stated impacts or expected outcomes have been achieved for the program itself. However, in each individual country there may be examples of significant impact, but this requires local analysis. In the example of the Netherlands, there are many significant impacts over the course of the program. Two recent examples include the youth perspective integrated in the country's report on their progress on the SDG's, and the Dutch parliament agreeing to curriculum changes to include sustainability education in schools, among other less tangible effects. However, this example comes from the country with the most institutionalized and embedded system and therefore is an exceptional case rather than the rule. It was also highlighted on two occasions that the Dutch program is likely to have the most outcomes and impacts based on this and the priority it has within the government and therefore is not indicative of the other cases.

This mechanism does not have significant amounts of any of the attributes for effectiveness. It has particularly little independence and feasibility because there are no aspects of the institutional

design that ensure any kind of longevity and it is down to particular individuals within any government to ensure the continuation of the mechanism and its legitimacy. If a governance mechanism depends on particular individuals and their behavior to ensure its existence, it cannot be seen as effective.

6.2 UNFCCC Youth Party Representatives

6.2.1 Description

The United Nations Framework Convention for Climate Change does not have any formal mechanism for youth representation at a central level or at a national level, however some states (parties) have a history of including “youth delegates” or “youth representatives” in their state delegations to the annual Conference of the Parties in a similar format to the UN’s formal youth delegate program. Because there is no standard system or process, these young people participate in the negotiations and their respective government processes in a variety of ways. In addition to this, there are many young people who attend the conferences in an advocacy capacity, but are not a formal part of a government mechanisms. In the case of the Conference in 2016 in Marrakech, there were seven national governments who have registered youth delegates with the UNFCCC: Canada, Finland, Austria, Marshall Islands, Micronesia, Norway, and Sweden (UNFCCC, 20016, 2016a, 2016b). These youth delegates contributed to the countries work and negotiations as a youth representative. In many cases, these roles do not have formal remits or positions, and so there is often not explicit definition of them as proxy for future generations, however this is informally discusses in this way by many involved in these processes (CliMates, 2016; United Nations Joint Framework Initiative on Children Youth and Climate Change, 2010).

6.2.2 Outcome

The outcomes from either the formal youth participation in national delegations, or the participation of youth lobbying groups, has not been monitored or measured and so it is difficult to detail any outcomes. While there have been reports written by some youth organizations about progress on this, it is still along way to go before there is much understanding of the outcomes. All of the information available about the outcomes of these mechanisms came from those who were advocates themselves on this topic and this was not able to be validated or verified (Cassar, 2007; CliMates, 2016; United Nations Youth Association of Australia, n.d.). Every year there are extensive calls for a more formal procedure for youth to be involved in negotiating or decision-making in this context, but this has not been implemented either in a significant way at a national level or by the UNFCCC (United Nations Joint Framework Initiative on Children Youth and Climate Change, 2010).

6.2.3 Impacts & Effects

Youth delegations can add expertise, energy and additional capacity to national delegations as they are often an additional well-informed and free capacity for governments to involve in their work in the context of the UNFCCC (United Nations Joint Framework Initiative on Children Youth and Climate Change, n.d.). In a report produced by CliMates, a youth climate action advocacy organization, Laurence Tubiana, one of the key architects of the Paris Agreement, sings the praises of youth delegate programs and particularly youth engagement with the UNFCCC. She called them “the voice of future generations inside of the negotiations” and refers to the mechanism as “an effective endeavor to build this continuity” (CliMates, 2016, p 4).

However, the youth participation in the UNFCCC remains extremely fragmented, with youth civil society participants unaware and unconnected to young people in national government delegations,

state-nominated youth delegates, or even well-coordinated between themselves, which leads to “insufficient support” to actually “test the effectiveness” of youth representatives (Gracey, 2008). Since Gracey’s (2008) reflections, as a youth participant himself, the youth representation in the UNFCCC has formed its own system of organization and bureaucracy for civil society organizations and observer actors, in an attempt to increase effectiveness, but this system still remains separate from representatives of parties or governments. Without integration with the Parties, youth participants have no formal voice in the decision-making process and therefore cannot effectively act as proxies for intergenerational equity.

In addition, Tubiana’s praise seems to highlight a key issue: she uses the term youth delegate program to refer to delegates who both participate in the formal UN Youth Delegate Program, as analyzed in section 6.1 as well as to refer to youth representatives as part of the UNFCCC. This, in itself shows a lack of legitimacy because of the way the lack of clarity and understanding of the role and influence of these two mechanisms within the UN system as well as at the national level threatens these two mechanisms. And any more formal understanding of the impact of the youth delegates that are an integrated and representative part of the process would require objective analysis of the impact that they have had, which has not taken place.

Finally, much like the design of the UN Youth Representatives mechanism, this mechanism depends on the willingness of particular individuals and has not been designed into any political landscape, therefore significantly lacks independence and feasibility.

6.3 Youth Quota’s as Representation in National Governments

6.3.1 Description

A key mechanism for establishing representation of future generations through youth as a proxy is the provision of youth quota’s, or mandated youth representatives in government. The use of quota’s is a means of ensuring representation of minority, disempowered, or underrepresented groups in a democratic system. It was found that seven countries have youth quota’s: Rwanda, Morocco, Kenya, Uganda, Tunisia, Kyrgyzstan and Egypt (these are elaborated on in Appendix 10.4). This list was obtained by the Inter-Parliamentary Union’s recent research on youth participation in national parliaments (Inter-Parliamentary Union, 2016).

The majority of the mechanisms identified related to a specific number of seats reserved in parliament, while the mechanisms in Kyrgyzstan and Tunisia relate to regulation of the political party lists for elected representatives. In each of the countries there are unstable social, political and economic dynamics, and young people make up around half (or sometimes more) of the population being represented. When this demographic divide is contrasted against the actual representation resulting from these mechanisms, there remains a gap. None of the quotas provide for more than 30% of seats, and some offer as few as 2 guaranteed seats in parliament. These mechanisms often do not explicitly relate to climate change in their legal foundation, but in many cases the representatives themselves or other government reports have made the connection. However, the connection to climate change remains weak as compared to the other mechanisms studied here, while the explicit purpose of implementing intergenerational equity is very clear and strong in almost every case.

6.3.2 Outcome

The countries examined have varied outcomes. In some cases, there are more young people than guaranteed seats elected through the election process which shows increasing youth representation in the parliament, while in others the quota systems are actually being dismantled through legislative amendments at time of writing. A varied picture is painted when looking at the embeddedness of these mechanisms, however, there is one factor which impacts on their outcome that is consistent across each country – none of them have stable political systems. To such an extent that in some cases, like Tunisia and Egypt, it is difficult to know whether information publicly available is correct, and whether the parliament has any power at all or is not just overshadowed by the executive branch to such an extent that any kind of quota or representation doesn't have any impact on the system of governance or decisions made (Arab Republic of Egypt, 2015; Muriaas & Wang, 2012). Additionally, in some cases the systems for quota's exist in text or legislature but political actors have found a way around compliance with the mechanism (Freedom House, 2017; Youth Policy, 2014). For example, in Egypt where the political parties themselves have made it almost impossible for young or anyone but the wealthy to run as a candidate for the party because of a payment system for running in elections (Husseini, 2014). Therefore, it was not possible to conclude that there were any outcomes from any of these mechanisms.

6.3.3 Impact & Effects

The context of these factors significantly threatens their potential for effectiveness, making their feasibility extremely low. In many of these countries the social and cultural divide between younger groups and older groups is contributing to a widening demographic divide, social tensions and the beginning of a new identity and culture forming through the collective perspective and action of the younger generations (Desrués, 2012). Therefore, the inclusion of younger generations as representatives in parliament can be seeking to bridge this gap, but also can contribute to these tensions in the national political arena, threatening their legitimacy.

In addition, there were too many other factors contributing to any claim that the youth quota mechanisms had much influence at all to be able to adequately assess it. Finally, in all cases, the mechanisms have been designed into the system to deal with challenges of social and political revolution, re-building stable politics after a disaster, genocide or conflict, or to pre-empt increasing youth apathy turning into a force for conflict in the state (Aliriza, 2014). Therefore, while these mechanisms may help to create connections between generations, in most cases they are reactive rather than proactive, and in every case, they lack relation to environmental impacts or other longer term governance challenges and therefore lack normative significance.

Aside from significant theory and behavioral and political science studies about the impact of youth participation in government, the Inter-Parliamentary Union is the main source for analyzing the impact of youth participation in parliaments. The research conducted here is not enough to make any conclusions about the effectiveness about this without relying on other theoretical studies. The Inter-Parliamentary Union found that legislative quotas were more effective than party quotas because they guarantee real representation in the government and are not dependent on inter or intra party dynamics or politics (Inter-Parliamentary Union, 2016). However, this same report also relied on self-reporting and self-analysis from governments, and some of the findings of which have been undermined and brought into question in the process of this research. Therefore, it seems that much more work needs to be done to understand the impact of these mechanisms beyond symbolism.

6.4 Other Mechanisms

There are several other mechanisms which claim to allow youth to participate in government and decision-making to act as a proxy and to bridge the gap between generations and their differing role in making decisions and dealing with the ramifications of these decisions. The most common of these mechanisms is a form of youth council or youth parliament. These tend to be NGO's which should be seen as advocacy strategies rather than national government activity or decision-making, and so they have not been included comprehensively in this study (Inter-Parliamentary Union, 2016).

The few cases where there were direct links between the government and youth councils or parliaments demonstrated tokenistic and unsubstantial contributions, which in some cases actually contributed negatively to intergenerational equity and effective climate governance. There were three core dimensions that were present in these examples: youth councils acted as tokenistic fulfilment of intergenerational equity; youth councils trained youth to adopt the negative behaviors of the current political actors and system; and youth councils allowed for the further postponement of future problems, such as climate change.

One example which provides evidence of these negative dynamics is the Sangguniang Kabataan in the Philippines. This mechanism is an elected body young people working on the local municipality level to advance the needs of young people. They are provided with a budget to implement their plans for young people in their locality by the government and so they hold some amount of substantial and normative power (Velasco, n.d.). This and many other youth mechanisms were devised either directly or indirectly from the "Youth in Nation-Building Act", unfortunately this act does not provide concrete terms for increasing youth participation in decision-making.

The first fundamental problem with the system devised for youth participation is that the Sangguniang Kabataan is widely known as a way for perpetuating the system of corruption in politics by training politicians children to mirror the older generations actions and methods (Velasco, n.d.). They have come to be known as "trapolitos" which is a unofficial term for self-serving, political patronage and the "wheeling and dealing" that comes with this (Velasco, n.d.). In addition, while there are youth parliaments or councils, the government has set explicit age minimum's for other levels of office (the age minimum for sitting in parliament is 35) (Velasco, n.d.). This is common sign of tokenism, where the youth box is 'ticked' through soft mechanisms, and formal participation is still out of reach. Finally, the idea of leaving youth issues or longer term issues in the hands of the next generation decreases the seriousness and priority of these problems in conventional decision-making structures (Bidadanure, 2015).

While each individual mechanism is subject to its own context and so different councils or parliaments may enjoy differing levels of responsibility or influence, for the reasons outlined above, the numerous examples of youth parliaments or councils that exist outside of formal decision making have been excluded from this study.

6.5 Discussion

6.5.1 Common Challenges

Measuring Impact

A key sign that there is very little emphasis put on youth programs is that no evidence was found that any institution or organizations attempted to monitor their effectiveness – none of these mechanisms have done any work to understand, monitor or evaluate the impacts and effectiveness of their work. While many government programs, or government funded programs, are required to do this, it is notable that youth representation schemes appear to be an outlier. Because of this, almost all of the literature assessing them is built on foundations from other fields, which often is in theoretical terms and is applying findings from behavioral analysis to this context. Therefore, these aren't a fair assessment of the situation and this type of mechanism's potential impact. When asked youth delegates themselves can elaborate extensively on their impact, but there were no institutions or institutional representatives found that were willing to discuss this or had any information to provide on this.

Youth vs Future Generations

Across the mechanisms studied it appeared that there was some confusion about who was being represented through the mechanism. Some mechanisms, particularly that of parliamentary quota's speak of future generations and future decision-making, while other focus on the present demographic challenges – for example, many African states face the problem of young populations, with the average age of the African continent being 19, while the average age of leaders is 65 (Welford, 2016). The same dynamic happens for the UN representation mechanisms, in the example of Australia, a significant local tour takes place so that the youth representative expressed views that represent young people (United Nations Youth Association of Australia, n.d.), however the Dutch youth representative focusses more strongly on influence in decision-making within the Dutch delegation and government and less on gathering views. In addition, much of the academic work on this topic assumes mechanisms are a means to implement intergenerational equity even when they do not explicitly say so themselves. In addition, in some cases, there is just a lack of clarity about what the purpose of such a mechanism is. In some cases, its unclear whether a mechanism described is working towards representation of future generations and intergenerational equity, or just symbolic youth representation for present political gain.

6.5.2 Reflections & Recommendations

In the context of this section, the concepts of both intergenerational equity and youth representation are interpreted in such vastly different ways that in the most extreme examples one organization can be using the same language to mean two different things. While the biggest challenge of this mechanism remains the lack of monitoring and evaluation of programs - addressing this may also provide clarity of terms and concepts. Many mechanisms are not even explicit about what their goals are, and clarity on this, and the extent to which they are achieving their goals, would substantially improve this area of work and understanding of it.

Finally, there is an important different between “substantive representation” and “symbolic representation”, and in this process, mechanisms should seek to pursue the former and not the latter (Bidadanure, 2015). In fact, it may be that designing mechanisms to fulfil the symbolic role of representation of young people or future generations, rather than designing one to have substantial impact on decision and policy making, may be the root cause of the lack of clarity of the purpose of these mechanisms and their effectiveness, and may also contribute negatively to effective governance in general as well as intergenerational equity.

6.5.3 Conclusions

In conclusion, there were three different types of youth representation mechanisms identified with 19 different countries participating. Around half of countries with this type of mechanisms are African states, particularly the parliamentary youth quota, while the UN mechanisms tended to have participation predominantly from European states. All around the world, the average age of those in public office is much higher than the average population age (Inter-Parliamentary Union, 2016; Tremmel, 2006; Ziegler & Ziegler, 2015). While this is a particularly acute problem in Africa, it is a worldwide challenge (Gonzalez-Ricoy & Gosseries, 2016). On the whole, these mechanisms would benefit from much more thorough monitoring and reporting frameworks in order to understand their outcomes and impacts. In addition, their legitimacy as governance mechanisms would also increase with the increase in accountability from monitoring.

Table 10. Assessment of Factors of Effectiveness for Youth Representation Mechanisms

Effects	Independence	Legitimacy	Feasibility	Accountability	Normative Significance
1.3	1.3	1.7	1.3	1	2

In conclusion, the youth representation mechanism scored lower than average across all measuring factors. Some anecdotal evidence claims that these mechanisms could be effective, however institutional design seems to be a consistent limiting factor, as does political context, making independence, feasibility and accountability exceptionally low. Particularly in the case of the two international mechanisms – the effectiveness of these mechanisms is severely limited by their design: they are not guaranteed longevity or continuation, nor are they designed to function independently as their continuation performance depends on their performance. A further institutionalized representation scheme designed to deal with some of these challenges could possibly overcome these barriers to effectiveness.

7 Discussion

The discussion continued below will elaborate on the sub-questions of this research as they relate to the analysis undertaken in the previous chapters. The discussion will address: where and how has the concept of intergenerational equity been implemented; what the effects of implementation are; what attributes caused effects to result from implementation of the mechanisms; what attributes contributed to the success, failure and effectiveness of the mechanisms; and how national and international institutions might reform to implement this concept. Finishing with a conclusion providing a concise answer to the overall research question.

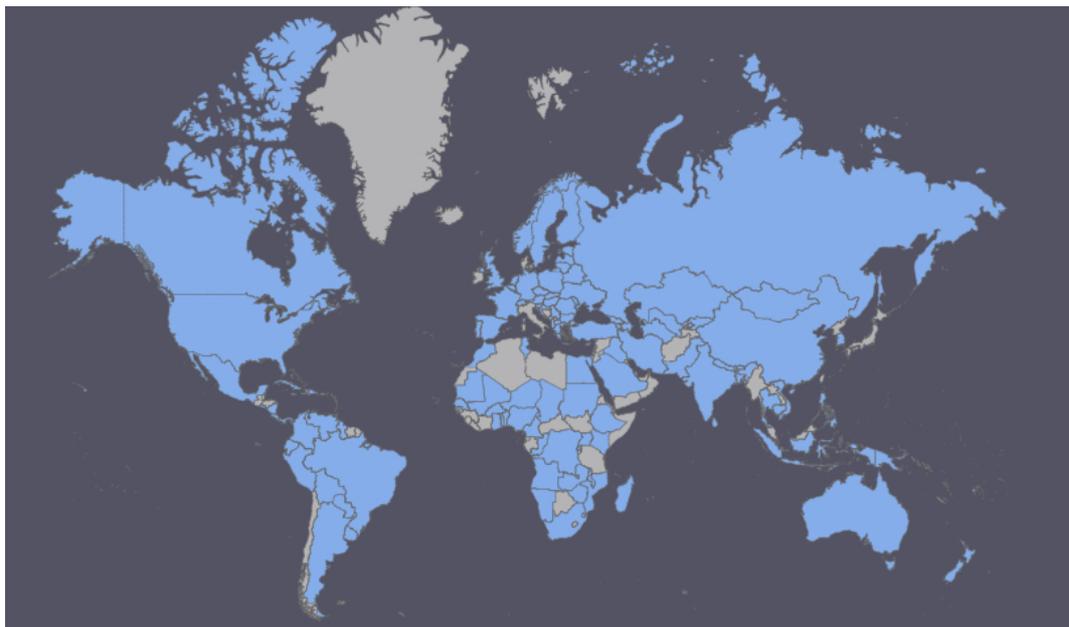
7.1 Global Review of Intergenerational Equity

This section will expand on where and how the concept of intergenerational equity has been implemented and compare and contrast this to the existing state of the body of literature on this topic.

7.1.1 Geographic Distribution

There are 167 mechanisms present in 134 different countries around the world as shown in Image 1, where countries with mechanisms are highlighted in blue.

Figure 9. Map of Intergenerational Equity Mechanisms



This means 44 countries in Europe, 10 in North America, 8 in Oceania, 14 in South America, 31 in Asia and 33 in Africa have mechanisms which work on intergenerational equity. The percentages of mechanisms per continent can be seen in Figure 10 below. While the number of countries per continent can be seen in a comparable way in Figure 11 as a reference point for comparison.

Figure 10. Graph of Countries with Governance Mechanisms per Continent

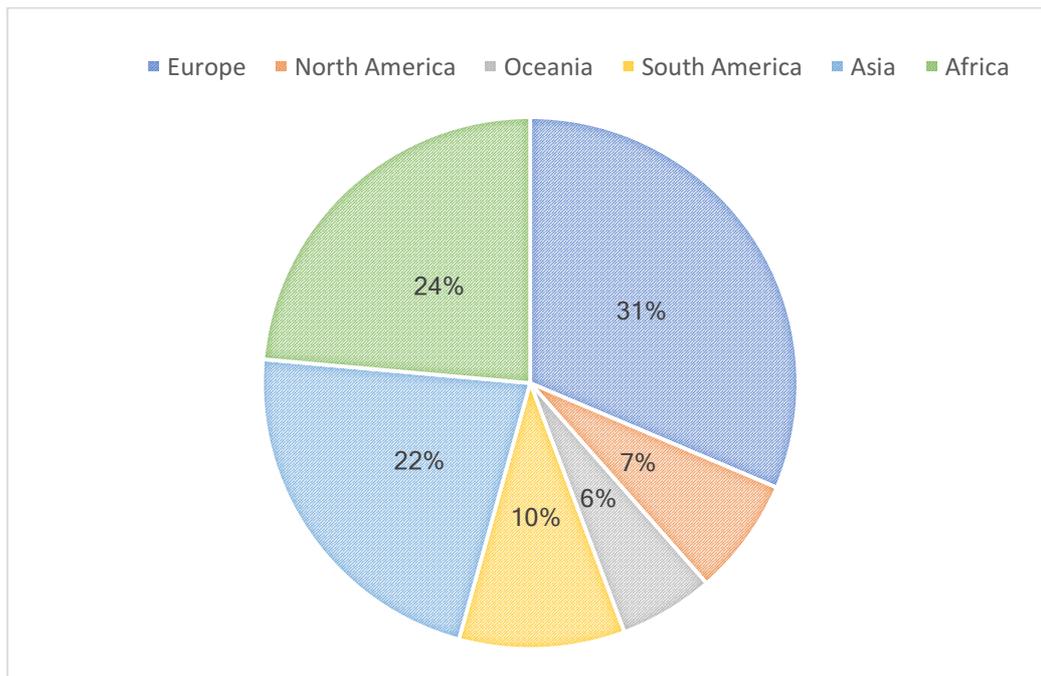
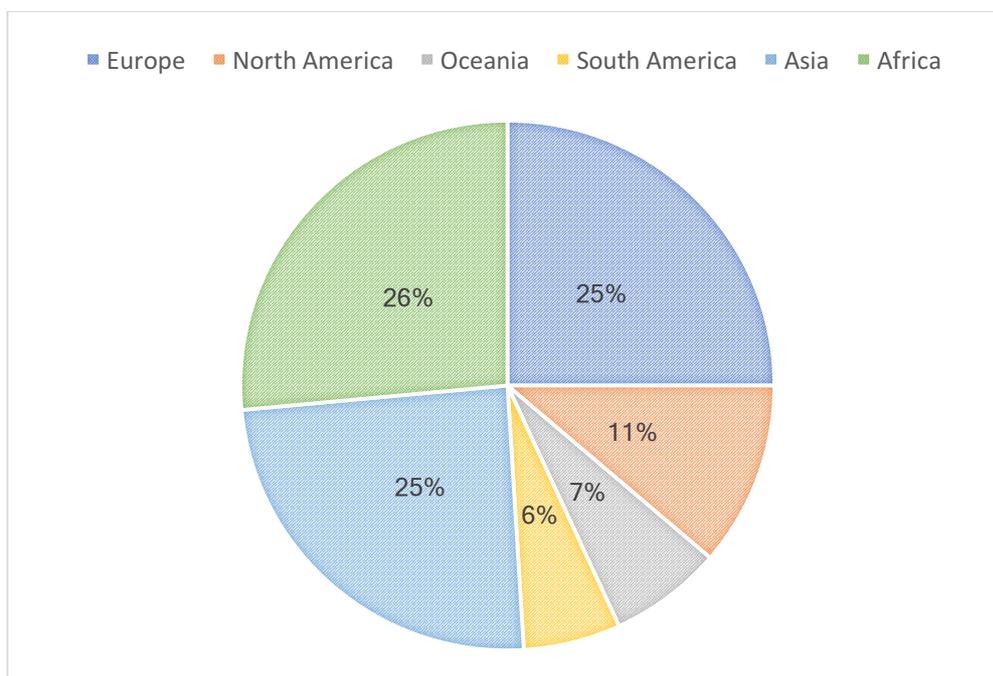


Figure 11. Graph of Number of Countries per Continent



While there are minor differences in these graphs, they show that the number of mechanisms is roughly proportional to the number of countries around the world and therefore there is not a region which had disproportionately more mechanisms than others according to these comparisons.

Under closer inspection, there is a theme around the world which is not picked up by this geographic analysis, which is that small island states tend to have the least number of mechanisms. Because this

is distributed across multiple continents, the graphs above don't show this trend. There are two possible explanations of this. The first is that small island states could have less developed governance systems in general. With smaller populations and smaller budgets, perhaps new specialized agencies or court systems to deal with this kind of challenge are not as present. The second is that, there is a mismatch between the impact of intergenerational equity, that small island states will likely feel the first effects of climate change, and their ability to deal with it within their governance context. For example, the constitution of Vanuatu explicitly gives citizens the right to leave the country because of environmental conditions, but does not afford environmental rights (Vanuatu, 1980). It is possible that cause and effect is understood in such a way in these regions that a national mechanism is not seen as an appropriate way to deal with this and that international mechanisms are considered more appropriate (Baker-Jones, Burton, Bell, & Chang Send, 2013). For example, multiple small island states have threatened lawsuits against larger historic emitters, such as the United States (Jacobst, 2005). However, the use of this as a mechanism to implement intergenerational equity is not feasible as international justice mechanisms depend on the willingness of both parties to participate in the system and this willingness is not present amongst many of those who this court cases would be brought up against.

The vast spread of mechanisms across the globe as well as the significant number of them offers a dichotomy to the existing literature on this topic from every field. This global review of the mechanisms demonstrates that the lack of intergenerational equity of climate change is not explained by a lack of governance mechanisms. In fact, much of the most problematic theoretical challenges discussed in the literature, such as a constitutional right to future generations, are not perceived in the same way in practice.

7.1.2 Distribution of Mechanisms

Of the 167 mechanisms identified in this research, 120 were relevant constitutional clauses of constitution, 13 were court cases, 12 were specialized institutions or agencies, and 22 were examples of youth representation. These finding contrasts significantly with what was previously understood and illuminates one of the key challenges of this research, the normative bias present at every level of research and implementation. Often when studying the effects of a policy, mechanism or measure, understanding what those effects are is the most difficult part, however in this research understanding what mechanisms to study also posed a significant challenge. On the whole, the literature on this topic has over-represented the role of specialized institutions and under-represented the role of constitutions and court cases.

In conceptual developments of the subject, the concept of intergenerational equity has been inherently embedded within the concept of sustainable development from the very beginning. The earliest definition of sustainable development in the Brundtland Report refers to sustainable development in terms of future generations: "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (World Commission on the Environment and Development, 1987). Many scholars and practitioners see the two as synonyms, but they are not. Sustainable development is not the same thing as implementing equity, or in particular intergenerational equity.

For example, the UK's Sustainable Development Commission is included in every single study on institutional mechanisms for implementing intergenerational equity. However, there is not a single public document or statement that says that the Commission itself works on intergenerational equity. It has been assumed in research and practice that a Commission which works on sustainable development also works on intergenerational equity, when the institution does not consider itself working on this. Often there is a concern that there is too much normative bias around concepts of

equity to study it, and as long as the academic community continues to incorrectly identify mechanisms because of their own bias about what sustainable development or equity or intergenerational equity means, this will continue to be the case.

Perhaps the opposite problems exist for relevant court cases. Many court cases had outcomes which mention intergenerational equity, while the case itself was not originally about this. There are even more than are mentioned in this research, however some exclusions were made to keep it relevant to climate change here. This demonstrates a willingness of lawmakers, judges, and lawyers to connect local, context-specific conflicts into a broader narrative about equity that is largely going unnoticed. While there is concern about how equity is operationalized in the academic context, there are court cases which are demonstrating its operationalization all around the world with little recognition for their innovative global perspective and willingness to embed the concept of equity into their legal proceedings and governance system. The example of the Goa Foundation case in India is a clear example where as a result of the case the government has operationalized so clearly what intergenerational equity means in this situation that it is quantified in specific financial and resource use figures as well as new institutions (Basu, 2014; Bhushan, 2016; Department of Mines, 2012; The Goa Foundation, 2014).

Finally, the knowledge gap in constitutions as a means to implement intergenerational equity in both academia and practice is massive. Tremmel's (2006) seminal text, *Handbook of Intergenerational Justice* included a chapter which tried to summarize the potential of constitutions includes 27 examples. This research found 82 binding clauses which relate to legally enforcing this concept. This is a gap in knowledge by a factor of 3 which cannot be explained by ten years of development because these constitutions have not changed that rapidly. A publication of Gonzalez-Ricoy and Gosseries (Gonzalez-Ricoy & Gosseries, 2016) goes some of the way to close this gap but on a theoretical level and does not examine any of these clauses. A seemingly simple output, identifying the examples of intergenerational equity, is much more complex than it sounds and this in itself is a significant undertaking and contribution to the field from this research.

7.2 Effects of Intergenerational Equity Mechanisms

While the specific details of the effects of each mechanism can be found in the analysis section, this section will discuss some of the key trends and findings related to the effects of implementing intergenerational equity, and is followed by discussion about what attributes caused effects to result from implementation of the mechanisms and what attributes contributed to the success, failure and effectiveness of the mechanisms.

7.2.1 Identification of Effects

As a result of the mechanisms studied, a variety of effects were identified. These range from new policies or strategies as well as changes to existing ones, changes in public perception and opinion, new court cases or legal conflicts, the introduction of funding and financial mechanisms, and much more. The ability to identify clear effects varied across different examples of governance mechanisms. However, there was the common challenge that it was difficult to confirm a causal relationship between a mechanism and its effects felt in a society or governance system. This is true for a significant amount of research on the effects and effectiveness of governance mechanisms, and this is no exception. The variance between effects from each mechanism depended on the type of mechanism; for example, it is much easier to identify the effect of a court case which has a clear court order produced as an outcome of the case, or to understand the impact of an institution which produces elaborate annual reports on their impacts, than it is to understand the normative effects

on the governance system of elaborate constitutional clauses about the rights of future generations. Therefore, the identification of effects of the mechanisms studied proved to be quite a difficult task, which requires much more work.

However, a more significant challenge to identifying effects is that once mechanisms were producing effects, the effects no longer had as clear of a link to intergenerational equity. This was true even in cases with clear effects and operationalization of intergenerational equity. For example in the Goa Foundation court cases, the effects of the case have clear, elaborate and specific links to intergenerational equity (Basu, 2014; Goa Foundation v. Union of India & Others, 2012). Largely, once translated to policy or instrument, the connection to intergenerational equity is lessened and the connection to climate change, once clear, has been significantly diminished. In many cases constitutions provided legal foundations for further environmental regulation or institutions, but when these were developed and implemented, the connection to intergenerational equity or future generations ceases to be present in the same way that it might have been in the constitution. For this reason, it became difficult to identify for many of the constitutions whether the effects of the constitution related significantly enough to intergenerational equity to be considered an implementation of this concept.

There is a broader question to be considered in relation to this, in the literature on this topic there are many examples which have often been included which do not explicitly reference intergenerational equity. This has become a norm in academia to be included in the research and analysis of this topic. However, when it comes to understanding policy instruments or regulation in terms of intergenerational equity, a line is often drawn that they must explicitly reference the concept. The parallel examples show that a different standard is being applied to different levels of analysis. This research has upheld the same standard for every level of analysis, for institutions as well as policy instruments and regulation, concluding that if they do not reference intergenerational equity, that it does not work to implement this concept. However, it is likely that many more mechanisms and many more effects could be identified if the definition for what implementation of intergenerational equity could be defined in a way that does not depend on the explicit language. This question cannot be answered by this research and would require specific understanding of policies that do and do not include this reference to be understood. I believe that this is the next step which requires clarity for in operationalizing equity in general and intergenerational equity specifically.

7.2.2 Effects of Integrated Approaches

The most significant effects seem to take place where multiple governance mechanisms are integrated together. The Complete Table of Mechanisms in Appendix 10.5 shows the locations where governance mechanisms can be joined up. Some examples include: Finland, Kenya, Hungary, Norway, and Canada.

For example changes to the constitution in Kenya in 2010 allowed for the legal foundation of a court case which is claiming rights for future generations, but also has provided the framework for the recent development of a specialized institution (which is still under development at time of writing), and laid the foundation for youth quotas to be implemented in parliament (Government of Kenya, 2010; Peter K Waweru v. Republic of Kenya, 2006; Keter, 2017; The Judiciary of the Republic of Kenya, 2014). Where there is an integrated approach across a governance system, more effects seem to be possible and perhaps even likely. A further example of this is in the Goa Foundation court case. Although there were not specific institutions, once the first ruling of this case had ruled in favor of intergenerational equity, it then became possible to establish a financial institution and mechanism and to build further cases on the precedent set by this one (Department of Mines, 2012;

Goa Foundation v. Union of India & Others, 2012, 2016; The Goa Foundation, 2014). At present, the individuals involved in this case are working with the Indian government on a proposal for a constitutional amendment which includes intergenerational equity as a result of the success of the previous developments.

In addition to integration across different specialized governance mechanisms, there is also the topic of integration of intergenerational equity within other existing or non-specialized governance mechanisms. Many of the court cases which have been historically successful are not based on binding legal foundations which related to environmental rights, climate change or intergenerational equity, but instead on basic principles of right to life. The examples in India, including many others not included in this research related to the environment but not intergenerational equity and climate change, are all based on the article which establishes the right to life. Further to this, the first court case related to the way that climate change infringes on the human rights of young people (as a proxy) and future generations, has been filed in the Philippines at the time of concluding this research. This case is against the human rights institution and is based on a human rights infringement and does not relate to environmental legislation or constitutional clauses. This is a groundbreaking approach which does not require any legal foundation or specific institutions.

While the question remains of whether this is a more effective approach, this is a significant enough finding here that integration is considered a factor for effectiveness of intergenerational equity in further research. Furthermore, it may also be the case that integration is a key factor for effectiveness of climate governance more generally.

7.3 Measuring Effectiveness

Overall, only 2% of mechanisms studied, or 3 mechanisms in total, have been concluded as being effective. This was calculated by taking an average of the score for each factor in the analytical framework discussed in section 2.3. The full scoring table can be found in the conclusion in Table 12 but a summary of the average score for all the mechanisms for each factor can be found in Table 11 below and will be discussed below.

Table 11. Assessment of Factors of Effectiveness Summary

Effects	Independence	Legitimacy	Feasibility	Accountability	Normative Significance
1.3	2	1.7	1.8	1.5	2.6

While independence was widely considered important in the literature around effective institutions and particularly around intergenerational equity, this proved to come with significant unintended consequences. With relation to court cases and constitutions, their independence often resulted in very little translation of the ruling, legal principle or law into practice. Because they both depend on enforcement, their independence could possibly prohibit enforcement mechanisms being effective, and this proved to be quite problematic. However, with relation to institutions or specialized agencies which are inherently less independent could still have influence through both informal and formal ways. While these institutions were largely limited in their independence by the political arena, election cycles and the role and relationship to elected officials, those that found ways to overcome this work within their context could be more successful in creating effects. In the example of Israel, too much independence was one of the factors which caused the popular support for the institution to decrease and that contributed to the government dismantling it (Tremmel, 2006).

Following this research, it is not clear that independence is necessarily a factor for effectiveness, however, enforcement is an overlooked crucial factor in almost every governance context.

Broadly speaking the majority of the mechanisms under study lacked legitimacy, accountability and feasibility. The legitimacy of institutions varied significantly based on the institutional design and social and political context. Some institutions were designed in such a way so as to increase their legitimacy, such as the Finnish Committee for the Future with elaborate provisions for participation as a means to increase legitimacy, or the parliamentary youth quota's which in themselves are about participation in the government. However, this increase in legitimacy risks coming at the cost of other factors. For example, while youth representatives might increase public legitimacy, they may have less effects because their perception by their parliamentarian peers might be low. In contrast, a significant number of institutions were disbanded over time, and this can be seen as crucial indicator that they did not hold a significant enough legitimacy to justify continuation. Finally, the legitimacy of constitutions depends largely on the rule of law, and political environment of the country, therefore in many cases other political factors hamper this as an effective governing mechanism.

The lack of legitimacy links to the lack of accountability. While in theory constitutions and elected officials are accountable to the citizens of their country, making these mechanisms more accountable than others, there are no reporting or monitoring mechanisms which checks whether a country is abiding by its constitution. People are required to hold the government to account using the constitution – in practice this happens much less than is necessary with relation to the constitutional clauses under study here in order for it to be seen as an accountable mechanism. In addition, many of the mechanisms under study involve no direct link or provision for public accountability. However, not only are they not accountable to the public, none of the mechanisms have a method for being accountable to the goals of their institution. There is reporting on activities or work, but no benchmark of progress upon which to assess themselves. Increasing accountability to the goals of the concept of intergenerational equity is a crucial next step for operationalizing the concept and increasing effectiveness of these institutions and mechanisms.

Feasibility was identified as low in mechanisms where their longevity is in question. This includes mechanisms that are disbanded or threatened (such as the institutions in Israel or Malta) and those which only inconsistently exist (such as UN youth representation schemes). Constitutions remain high as they form a core foundation of the governance of any state and are perhaps the most consistent and unchanging aspect of governance, even though their enforcement can be more difficult.

Finally, normative significance remains the most significant factor identified here. In many cases the elaboration of the link between the governance mechanism and intergenerational equity is clear and well established. In some cases, intergenerational equity is even integrated in ways that showed a complex and nuanced understanding of the topic. In the most significant examples, intergenerational equity was operationalized through qualitative and quantitative goals to such an extent that other national and international governance systems can learn from these examples to improve how we understand this topic. However, the score of this factor in relation to the others illuminates the core problem: it is not enough to identify and understand intergenerational equity, or even design institutions for it, if the institutions are not effective governance mechanisms at their core. Therefore, the next section proposed some solutions for reforming these mechanisms so that their effective implementation can match their normative significance.

7.4 Reforming Institutions and Mechanisms

This section will elaborate on proposed reforms for each governance mechanism in this research. The recommendations formulated as a result of this research focus on the overarching goal of reforming institutions. It is recognized that this is a challenging and sometimes impossible task. It has been found time and again in this research that governments find it more difficult to reform an institution than to disband it, or construct one. To improve governance locally, nationally and globally, reform must be possible and also an effective means of modernizing, updating and improving on governance systems. The following are recommendations for reform of each mechanism based on the analysis and conclusions of this research.

7.4.1 Specialized Institutions or Agencies

Specialized institutions or agencies need to find a way to decouple themselves from the turmoil of election cycles and politics in order to adequately serve their agenda and achieve their goals. This has been widely discussed in the literature around these institutions and remains a core problem (Nesbit & Illes, 2015; Marcel Szabó, 2015; Tremmel, 2006). An institution, which is designed to improve long term governance, must be able to separate itself from the short-termism of every day politics. In order to achieve this, reform would need to take place at every level, from institutional design to day to day management. From inception, the institution cannot be the vision of one party, but instead must find cross-party support and become enshrined in legislature that guarantees this continued relationship across the political spectrum. In its operations, the institution must find financial stability so that it is not considered a drain on public finances. In communication, it must be clear to political officials, as well as the public about what it achieves and what the value of the institution is. This does not mean just a technical report, but also a reporting or transparency framework that contributes to public support and awareness. The public can only value what they are aware of and many of these institutions do not do enough to engage on this level.

There are some limitations on this kind of mechanism that should be recognized, put concisely by Paula Tiihonen, central figure in the Finnish institution and in this field more generally for decades: "... An ombudsperson cannot be a radical institution. It cannot lead a revolution" (Tiihonen, 2015). When this kind of institution is perceived as "leading a revolution" it loses political support, and therefore is not feasible anymore. For this reason, what Weiss proposes initially as an institution to implement intergenerational equity is a step beyond what an ombudsperson institution normally is. There is an important balance to be recognized: trying to replicate a broadly institutionalized concept such as the ombudsperson to increase acceptability and mainstreaming may not be compatible with the reality which is that specialized institutions often move far beyond the concept of an ombudsperson in their design. The operationalization of the concept of intergenerational equity that an ombudsperson for future generations may be trying to implement is likely to require a radical upheaval of aspects of the social and economic system to achieve its goals. In addition, traditionally, the concept of an ombudsperson has strength because it has legal foundations, in national and supranational law to deliver human rights. However, an ombudsperson for future generations often does not have this same legal strength as a backbone to the institution and so can be perceived as advocating for something additional, rather than as a legitimate and necessary governance institution. It is possible that the way this type of role is conceptualized is not compatible with the traditions of the institution of an ombudsperson, and alternatives need to be considered.

Finally, there is a crucial question of whether an independent institution or an integrated institution is the most effective way to operationalize this concept within a governance system. Could reform of another institution to incorporate these goals and concepts also be an effective solution?

7.4.2 Court Cases

The past couple of years have seen a significant surge in court cases which force the implementation of intergenerational equity, even at the time of concluding this research, there were new cases being introduced that could not be included here. However, the main challenge of these cases is the enforceability of their outcomes. Even when cases are specifically defending the rights of future generations related to a stable climate and action on climate change, there remains a deficit between the case outcome and any outcomes 'on-the-ground'. Cases should be more explicit about their expected outcome, and judicial systems must have a monitoring framework for guaranteeing enforcement of rulings. In a broader context, the enforcement of the stipulated outcomes may simply depend upon the record of enforcement of judicial rulings in general in any given country, and their underlying recognition of and respect for the rule of law. In this case, whether or not a court case is the most effective application should be considered.

In cases where the concept of intergenerational equity has been reference in the outcome but there is not clear operationalization of it, one of the biggest challenges is that it is not clear what the requirement is (Lawrence, 2016). The question of what must be preserved, what is just, and what is sufficient to fulfil the human and environment rights and obligations to future generations has not been clearly defined by many of the cases that have been studied here. This aspect of reform is not as much for the court system to consider, but those who instigate the cases to consider the enforceability of the outcome and the end result and impact in the process. Any new court case must include clear aims, outcomes and expectations, how they contribute to intergenerational equity and how they can be enforced to strengthen the effectiveness of this type of mechanism.

7.4.3 Constitutions

Contrary to the other mechanisms, reform of the constitutional mechanism itself is not suggested, but instead reform in how we think about them is necessary. There are many constitutions which elaborate on specific rights of environment, life, future generations, and more elaborate and specific clauses, however these must be put to the test. With 81 binding environmental clauses around the world, it is surprising that there is not larger volume of cases which seek to defend these rights. The challenge then is not to the government or the local Constitutional Assembly (or other similar body) to improve presence of these rights in legal frameworks or constitutions, but instead for lawyers, organizations, citizens, etc. to use these legal foundations of the state to demand rights. The pending cases included in this analysis show that there is in fact a sincere willingness of courts to consider the seriously consider the ramifications of this constitutional right, but the willingness to defend these rights must also be taken up by citizens, as they are who the constitution applies to.

In addition, there has been significant criticism from the legal scholarship on this topic that an international norm does not exist (Anstee-Wedderburn, 2014). This is a contested claim, and one which seems increasingly incorrect from this research, other recent scholarship and other recent international political developments. However, Rosencranz (2003) explains that the only way that these concepts receive legal substance and can become uncontested international legal norms is to enforce them through domestic law and domestic cases, to build up precedent and demonstrate enforceability of these rights. Therefore, the enforcement of these constitutional clauses does not just contribute to implementation of intergenerational equity locally, but it also contributes to the development of an international legal norm which could have more serious ramifications around the

world. Many of the more recent court cases are locating their case increasingly in the international political context, and any future interpretations of the national right to a healthy environment should local itself within this context too in order to strengthen this right locally and internationally (Peter K Waweru v. Republic of Kenya, 2006).

Finally, constitutions themselves, at their core are supposed to be an intergenerational social contract between citizens and the state. Most constitutions even include a preamble statement which reinforces this intertemporal nature. However, there is a risk that this inherent intergenerational relationship decreases as political short-termism increases, and it is important that any interpretation or discussion about constitutional clauses takes into account this core purpose.

7.4.4 Youth Representation

Youth representation mechanisms can be a double-edged sword. While they can promote intergenerational participation in hopes to influence more equitable decision-making, they can also indoctrinate youth into picking up the bad habits of the political system in which they are participating. If youth representation mechanisms are used as a means to work towards long term thinking and intergenerational equity in relation to climate change, it needs to be more explicit to all individuals involved that this is the purpose of the mechanism. In addition, the participants need to be supported in a way that allows them to improve the system, given positions of authority to drive change, rather than just become indoctrinated into the same cycle of short-termism. There are many theoretical criticisms that youth do not influence decisions to more effectively plan for the long term in general and on climate change specifically, however, none of the current instruments (with perhaps one exception of the Dutch UN Youth Representation scheme) give youth enough authority in governance or decision-making to prove this theoretical hypothesis right or wrong. Instead this mechanism remains a tokenistic way to integrate intergenerational equity by using youth as proxy, and can only move forward if institutions are willing to truly put this into practice to test the impacts and clearly monitor these impacts and effects so that the experience can be learned from.

7.4.5 Lessons for Global Governance

This section seeks to address the question of what international institutions might learn from the lessons of national level implementation.

In the international governance arena, there have been some attempts to institutionalize intergenerational equity, since the first proposal around the time of the Rio+20 conference in 2012. In this context, intergenerational equity is often considered a customary legal norm but not a binding legal norm. There are also several youth representation schemes within the UN and other international bodies, however these are framed within a narrative about the rights of and engagement with young people rather than equity. There are several organizations which are currently working on the process towards institutionalizing intergenerational equity at the level of international governance and there are some key learnings from this research which should be applied to this work.

First, one of the key factors limiting these mechanisms at a national level is the lack of enforcement of their provisions, legal or otherwise. If a new mechanism at an international level can't offer enforcement of its norms and principles, then it is unlikely to be effective.

Second, one of the key questions around the current governance mechanisms is to what extent they are integrated into the governance system, either in their influence or remit or in their perceived authority. It is therefore worth considering whether a new institution is the most effective way to implement intergenerational equity as compared with the introduction of an integrated approach which reforms numerous institutions, perhaps adding a goal or outcome, or adding a new role or remit within them.

Third, if the institution cannot translate its normative significance into actual effects, then it is not an effective governance mechanism. In designing such an international institution, there should be specific and clear elaboration of how and where effects are expected to take place, what goals and targets should be met, and how these will be communicated. Without this, the institution would not be fit for purpose.

Finally, all of the above points relate to one of the key learning points, which is that context matters immensely. Whether this be contextual factors such as the role of rule of law, polarization of politics, or economic and financial stability of the state or another factor, these mechanisms do not exist in a vacuum. Before embarking on developing a new institution, it is necessary to understand whether the international context is ready for this type of mechanism, and it is not clear that this is the case.

In conclusion, designing an effective international mechanism for implementation of intergenerational equity at a global governance level is a significant challenge which should not be undertaken lightly. There is a very serious risk that an ineffective institution is worse than no institution at all. In addition, the trend of global governance, particularly related to climate change, is to put increasing emphasis on national level contributions. Therefore, it may be a better strategy for the focus to remain on improving national level institutions before embarking on the ambitious task of designing a new global governance institution or mechanism.

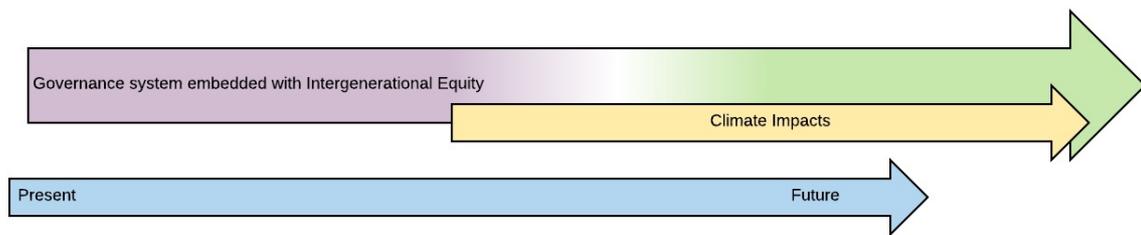
7.5 A New Proposal

One of the initial aims of the research was to be able to outline an ideal mechanism to be implemented at a national level. Some scholars have attempted such feats, for example Tremmel (2003) outlined an ideal constitutional clause to implement intergenerational equity. However, this is not possible. The most certain conclusion that can be made from this research is that there is no one ideal. Institutional design that worked in some cases will not work in others, constitutional clauses which have significance in some regions will not in others, and so on.

However, instead of proposing an institutional design, a new strategy is proposed here: Instead of working to build new institutions that are topic specific, a thorough integration of intergenerational equity into the governance system which already exists could prove to be the best way forward for an effective governance mechanisms through which to implement intergenerational equity of climate change. Ultimately, this is what a constitutional clause which references this concept does: it integrates this concept into the legal foundation of the state. While integration into other institutions might jeopardize independence or normative significance of the concept in its application, the other factors could benefit significantly. For example, integration of intergenerational equity of climate change into an already existing human rights institution would benefit from high levels of legitimacy, accountability and feasibility of an already established and normalized institution.

The model of the climate governance gap demonstrated in the introduction has been amended to illustrate the reform proposed here.

Figure 12. Integrating Governance with Intergenerational Equity



One of the biggest barriers to effects from the mechanisms studied here is that intergenerational equity of climate change is often operationalized into terms that are climate action specific and lose explicit aspects of equity and justice. Integration into institutions which focus more on equity and justice could help to keep these integral to operationalization and implementation and thus extend the horizon of the current governance system to more equitable deal with the mitigation of and impacts of climate change.

8 Conclusion

Through the range of mechanisms studied here the implementation of the concept of intergenerational equity could contribute to a “new level of effectiveness, legitimacy and overall performance” of climate governance that is urgently needed through the mechanisms studied here if they are implemented effectively (Biermann, 2014, p 11). This research found that there are 127 examples of mechanisms which work to implement the concept of intergenerational equity at a national level around the world. This includes 82 countries with relevant constitutional clauses of constitution, 11 court cases, 12 specialized institutions or agencies, 22 examples of youth representation. These examples range all over the world with the least number of examples in North America and Oceania, largely because many small island states do not have such governance mechanisms. Overall, this is double the number of examples expected following the initial scoping and feasibility of this research, and is close to four times that which are commonly mentioned in relevant literature.

This finding allows us to conclude that 65% of countries have mechanisms which work in some way to implement intergenerational equity. However, on further review, only three of the mechanisms could be considered effective according to this research: binding constitutions; the Goa Foundation v. Union of India & Others court case; and the Welsh Future Generations Commissioner. Following this, the other institutions with similar scores had non-binding constitutions: The New Zealand Parliamentary Commissions; the Peter Gray v. Minister of Planning court case; the Urgenda v. Dutch Government court case; Youth Quota’s in national parliaments; the Hungarian Ombudsperson for Future Generation; the Canadian Commissioner of the Environment and Sustainable Development; and the Mr. Peter K Waweru v. Republic of Kenya court case. Table 12 shows a summary of how effective each mechanism studied in this research was evaluated to be.

Table 12. Assessment of Factors of Effectiveness for All Mechanisms

Specialized Agency of Institution	Average
Australian National Sustainability Council (Disbanded)	0.2
Canadian Commissioner of the Environment and Sustainable Development	2.2
Finnish Committee for the Future	1.8
France - Council for the Rights of Future Generations	1.3
Germany – Parliamentary Advisory Committee for Sustainable Development	1.2
Hungary – Ombudsperson for Future Generation	2.2
Israel – Parliamentary Commissioner for Future Generations (Disbanded)	2
Malta Ombudsperson for Future Generations	0.3
New Zealand – Parliamentary Commissioner for the Environment	2.3
Wales - Future Generations Commissioner	2.5
Constitutions	
Binding Constitutions	2.8
Non-Binding Constitutions	2
Judicial Decisions	
International Court of Justice: Gabčíkovo-Nagymaros Project (Hungary/Slovakia)	1.8
Philippines Supreme Court: Oposa v. Factoran	2
Bangladesh High Court: Farooque v. Government of Bangladesh	1.5
High Court of Kenya: Mr Peter K Waweru v. Republic of Kenya	1.8
New South Wales Land & Environment Court (Australia): Peter Gray v. Minister of Planning	2.3
India Supreme Court: Goa Foundation v. Union of India & Others	2.5
High Court of Uganda: Kakuru v. National Environmental Management Authority	2
District Court of the Hague: Urgenda v. Dutch Government	2.3
Lahore High Court (Pakistan): Asghar Leghari v. Federation of Pakistan	2
Youth Representation	
UN Youth Delegate Programme	1.2
UNFCCC Youth Party Representatives	1.2
Youth Quota's as Representation in National Governments	2

Some of the most important effects of these mechanisms range from new policy measures or development of new institutions being developed (as in the Australian court case), to include on government decision-making (as in the Hungarian institution), to raising the public and political profile of the problem (as in the Urgenda court case), to setting key legal precedents (as in the Urgenda case and the Kenyan case). However, there is the potential for many more effects to be brought about by these mechanisms, but enforcement remains a key barrier between the normative significance of a mechanism and its ability to have an impact. Enforcement in this research was often found to be the result of a lack of feasibility or legitimacy. These two factors were often the result of a challenge of the social, political and economic context in which the mechanisms were seeking to operate. While accountability and independence seemed to have less impact on the effects and impact of an of the mechanisms, but significant impact on its relationship with its context and political landscape in which it operates. Finally, it was identified that a key factor for effectiveness which was not part of the analytical framework is integration. Where a governance mechanism had significant integration with other governance mechanisms there tended to be more impact. This is a

key finding not only for future research, as it proposes a new factor for evaluation, but also a key finding for designing effective climate governance mechanisms.

One of the most significant findings of this research is the scale and scope of these mechanisms. This poses the question of whether the problem is not a lack of governance mechanisms, but an ineffective use of them. Constitutions are designed to be tested, tried and upheld in courts, ombudspersons are designed to receive complains, protect people and keep governments accountable, youth quotas should increase youth representation. However, so few of the examples studied here effectively serve their purpose. Therefore, perhaps it is not new mechanisms that are needed at all, but instead reform of both the way that existing ones function and a reform of the way that policy-makers, elected officials, and citizens interact with them and use them. As an emerging field of research as well as a policy and political field, the time is ripe for research to feed into developments at a national level to inform and create best-practice governance.

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10 Appendix

10.1 Appendix 1: Key Specialized Institutions for Intergenerational Equity Not Included

10.1.1 Ecuador – Consejo Nacional Para La Igualdad Intergeneracional (National Council of Intergenerational Equity)

In Ecuador, the National Council of Intergenerational Equity was established in 2008. While this institution has been engaged in climate change discussions, particularly around the time of the Paris Agreement, they do not explicitly see themselves as contributing to climate change discussions. When contact was made with the institution, they explicitly stated that they do not work on this. Therefore, in spite of potential and some impact around this topic they have not been included here.

10.1.2 Namibia – Ombudsman of Namibia

The Namibian Ombudsman has been cited as a key example of institutions on intergenerational equity as the office works on, among other things, protecting natural resources and the environment in Namibia. While the Office of the Ombudsman has an explicit remit on Environment, human rights and general government administration it does not explicitly link to intergenerational equity. It also includes some remit on Namibia's Sustainable Development work, but this is not clear enough to include it in this research. This is one of many similar institutions which could take up some remit and work on intergenerational equity and there is potential for the future here.

10.1.3 Norway - Ombudsman for Children

The Norwegian Ombudsman for Children is often cited in literature about this topic as an example of institutional implementation of intergenerational equity (Göpel, 2011; Paula Tiihonen (ed), 2016; Szabó, 2015; etc). However, the institution does not claim any relation to climate change, future generations or intergenerational equity. While it can set its own remit, it does not appear that any of these priorities are in it (Paula Tiihonen (ed), 2016). While children and young people can be seen as a proxy for future generation, it is not elaborated on that this is the case in this institution and literature that claims that this institution, and so it seems claims that this institution does this are made based on what is possible and not what is being implemented (Government of Norway, 1981). Therefore, no further discussion is included in this research on this institution.

10.1.4 Sweden - Commission on the Future

The Swedish Commission of the Future is an institution which was appointed by the government in the Autumn of 2011 for a fixed period of a year and a half to identify the challenges faces Sweden in the long term (up to 2020 and 2050) (Commission on the Future of Sweden, 2013). This institution is sometimes referenced as an example of a commission which works towards intergenerational equity, however, in reality it worked as more of a research project, which was assigned a specific task and carried this out. The specific task was largely to identify challenges rather than offer any kind of proposals or recommendations. It is then in the definition of this commission, that it cannot be included here. The idea of the institution as a fixed-term commission for a purpose of providing recommendations could be a stepping stone towards the further institutionalization of intergenerational equity implementation, however, this did not manifest in Sweden.

10.1.5 Tunisia – Rights of Future Generations Commission

It has been identified in a number of informal media channels, including an NGO that works in this area, World Future Council, that Tunisia had taken steps to establish such a commission. However, there is not information that can be found on the existence of such a commission, or steps by the government to put this into practice.

10.1.6 United Kingdom - Sustainable Development Commission (Disbanded)

The UK Sustainable Development Commission has been included in many studies and reports on establishing a governance mechanism for intergenerational equity, however, this consideration needs further examination (Göpel, 2011; Göpel & Arhelger, 2010). At no point does any of the documentation of the UK Sustainable Development Commission explicitly state that it specifically pursues intergenerational equity or justice (Ullah & Shields, 2011). The extent to which this institution has been covered is due to the bias of researchers in the field to link the concepts of sustainable development and intergenerational equity, as they are closely defined in their definition, however not explicitly the same thing in implementation. This institution was not analyzed because of this.

10.2 Appendix 2: Sample of Individual Analysis of Constitutions

10.2.1 Albania

Description

The 1998 Constitution of Albania has two clauses which relate to the implementation of intergenerational equity, and three opportunities to challenge the activities of the state based on these clauses.

The most explicit of these clauses comes under the article of ‘Social Objectives’ where the constitution states that it aims at a “healthy and ecologically adequate environment for the present and future generations” (Republic of Albania, 1998, p 11). However, in this same section, it states that the topic of fulfilment of the social objectives of the state cannot be claimed in court. This provision immediately stamps out the prospect of a case on these grounds. The second, less explicit aspect of the constitution which refers to this is in the preamble. It states the “responsibility for the future” and the guarantee of “fundamental human rights” (Republic of Albania, 1998). The constitution does not go on to define what human rights are, but does reference these many times, and explicitly mentioned a right to life and liberty, which is a clause upon which other cases have been built (see Chapter 4), and an explicit responsibility for the future is significant agenda-setting for the governance context.

In addition to these clauses, the constitution outlines three ways in which a violation of the constitution and the rights of the people of Albania can be contested. The first of these is through the court system, including but not limited to, the constitutional court. The constitutional court has the exceptional privilege of being able to invalidate laws upon review and has legally binding authority on its decisions, including authority over other courts (Republic of Albania, 1998). The second example is the People’s Advocate, or the Ombudsperson, for Albania, which defends the rights of individuals as outlined in the constitution. Finally, the constitution places specific power and authority on international agreements and norms. Ratified international agreements officially constitute part of the legal system and the laws and norms outlined in these have priority over conflicting national laws and norms (Republic of Albania, 1998). A clause such as this makes the

question of whether intergenerational equity is a substantive international norm of great importance, because with this clause comes a foundation for intergenerational equity to become a legal principle in the national court system.

Outcome

Given the lack of enforceability of the Social Objective, and the norm-setting role of the preamble, it is unlikely that these clauses would result in specific outcomes or Effects. Therefore, there was no evidence found that these clauses have been tested for the pursuit of intergenerational equity or protection of future generations.

Impact & Effects

There was no evidence found that these clauses have had significant effect.

10.2.2 Angola

Description

The constitution of Angola has extensive provisions regarding the environment, including mention of the rights of future generations. Angola's core text does this in four ways: first, norm-setting in its language and non-binding clauses; second, through explicit provisions of environmental rights; third, through integration of environmental clauses into other legal provisions; finally, through a clear legal framework about resources.

Article 21 begins in the norm-setting by including the sustainable development and environmental protection in the fundamental tasks of the state (Republic of Angola, 2010). It builds on this norm-setting by then establishing formal environmental rights in Article 39 such as the right to a healthy environment, the duty of citizens and the state to pursue this, and the enforceability of this law (Republic of Angola, 2010). In addition to this clear legal framework, the second clause of this article also includes specific reference to "respect for the rights of future generations" (Angola, 2010, p 21). While this clause may not be enough to establish what the rights of future generations are in relation to the environment, it does establish that they have rights. In addition to this the constitution is also explicit about the right of citizens to take legal actions on activities that are harmful to the environment and collective interests, among other things. Building on this, the constitution also outlines the various levels of government which have remit and authority on environmental protection and topics.

In addition to these articles which relate specifically to the environment, the constitution also goes to significant lengths to integrate the protection of the environment into other sections of the constitution. Although it does it in a non-binding way, the constitution includes reference to environmental protection in sections on the economy and local planning (Republic of Angola, 2010). Finally, Article 95 outlines all of the aspects of the territory, such as natural resources, which are part of the public domain. This article includes provisions for protection of environment and property of national interest, however the language is crafted in such a way that it implies continued exploitation of resources (such as oil or minerals) as long as they remain run by the state (Republic of Angola, 2010).

Outcome

While the Angola constitution has significant legal provision for the environmental rights and even explicitly provides for the right to take legal action, no such cases have been brought forward. The framework for resource management outlined in the constitution seems to provide a legal basis for the establishment of a Sovereign Wealth Fund, which was indeed established in 2008 by the government to manage wealth generated from exploitation of natural resources in the country

(Reuters, 2016). However, while this fund should help allow for resources exploitation to benefit future generations as well, it has recently come under criticism in the way that it invests and functions and so may not be fulfilling this objective or meeting the legal provisions of the constitution.

Impact & Effects

Ultimately, in spite of significant environmental provisions in the constitution, the economic development potential of resource exploitation has proven to be unsuccessfully checked by these provisions. The legal provisions haven't resulted in cases and haven't stopped fossil fuel exploitation, and the economic instruments developed from the constitution also haven't offered a successful softer alternative.

10.2.3 Belgium

Description

The Belgian constitution, ratified in 1994, includes two specific references to the language of intergenerational equity: the first in the section 'On general political objectives of federal Belgium, the Communities and the Regions' and the second in the section 'On Belgians and their rights'. Neither use the language explicitly of intergenerational equity or justice, but refer to the same concept as is used for the definition in this research.

Article 7bis, in outlining the general objectives of the state claims that they "follow the objectives of lasting development in its social, economic and environmental aspects, taking into account the solidarity between the generations" (Belgian House of Representatives, 2007). This article sets an objective and a tone but does not outline a right which can be used to defend or substantiate any claims or petitions. It is agenda-setting rather than legal in its character.

Under Article 23, "Everyone has the right to lead a life in keeping with human dignity", there is clarity provided to say that this right refers to, among others, a list of 4, which includes "the right to the protection of a healthy environment" (Belgian House of Representatives, 2007). This article sets out an explicit right for a healthy environment but does not explicitly refer to future generations. Critics have pointed out that the language here, which specifies that it is a right to the protection of a healthy environment, and not the right to a healthy environment, explains that this wording keeps this article vague enough to allow it never to be used specifically on its own in litigation (Martens, 2007).

Outcome

The two articles mentioned in the section above have only successfully been used in combination with other Articles or legal frameworks. Martens (2007), specifically outlines that Article 22 (right to private life) and the European Human Rights have been used to enforce the right to a healthy environment in Article 23. However, none of the cases that have been mentioned by Martens (2007) refer to climate change, future generations or long term issues, instead they relate to topics like noise pollution or air pollution, which are an immediate infringement on rights.

Impact & Effects

While Martens (2007) claims following investigation or litigation on the right to a healthy environment in Belgium that there have been no effects of this Article, there are recent developments that may prove otherwise. Urgenda, the organization who pioneered a case against the Dutch government, is currently supporting a Belgian organization to use these Articles in litigation about the government's long term action on climate change. It is too early in the process of

this case to claim impact or effects, but this could be the beginning of a new interpretation of this Article in the constitution.

10.2.4 Bhutan

Description

The Bhutanese constitution has an extensive explanation of the requirements towards intergenerational equity of the state and each of its citizens provided for through 5 clauses and an entire section (Article 5) (Kingdom of Bhutan, 2008). The constitution also explicitly outlines the state's responsibility to intergenerational equity and grants parliament the power to enact more environmental legislature needed to assure and reaffirm the protection of this "sovereign right" (Kingdom of Bhutan, 2008). The constitution also provides for explicit assumption of responsibilities, by saying that "every Bhutanese is a trustee of the Kingdom's natural resources and environment for the benefit of the present and future generations" and that it is a "fundamental duty to contribute" to this (Kingdom of Bhutan, 2008, p 19). In addition, it establishes that the natural resources of the state are the property of the state and liable to regulation, and there is explicit responsibility of the government to protect, preserve, and secure the environment, even to such an extent as to elaborating the exact percentage of the country that must remain forest.

However, not only is the constitution explicit in Article 5 on the Environment, in the first section of the constitution and in Article 8 on Fundamental Duties, it establishes again "the duty to preserve and respect the environment, culture and heritage" as duties of citizens (Kingdom of Bhutan, 2008, p 24). There are also numerous other clauses related to wellbeing, right to life, and sustainable management of communities throughout the constitution that could supplement the clauses mentioned already above.

In addition to this, an underpinning of the modern functioning of the Kingdom of Bhutan, as outlined in the constitution, is their development and use of the concept of the Gross National Happiness Index. Developed in the 1970's by the fourth king, the country's framework for indicating success and progress, its Gross National Happiness Index, has tenants of sustainable development, environmental protection and good governance, among other concepts. This, as outlined as a pillar of the state in the constitution, may also contribute to the explicit legal framework of environmental conservation (National Environment Commission, 2016).

Outcome

In spite of these clear fundamental rights and responsibilities of citizens and the state in Bhutan, environmental challenges remain (National Environment Commission, 2016). With no court cases as evidence, but conditions that show a lack of application of these constitutional principles, more analysis would need to be done to find out why it is that these clauses are not being abided by. Bhutan's national and cultural identity is strongly linked to the preservation of the environment, as a country almost entirely set in the Himalayas and surroundings, but perhaps too much emphasis is put on this and the topic of conservation, rather than regulation and enforcement as economic development continues (National Environment Commission, 2016).

Impact & Effects

Seen together, the comprehensive legal framework provided by the state in Bhutan holds high normative significance, especially when seen with many other loose and vague statements that would struggle to hold any party to account. Its lack of effectiveness is perhaps due to the relationship between these legal rights and obligations and enforcement 'on the ground'.

10.2.5 Bolivia

Description

The Bolivian Constitution, most recently amended in 2009, is incredibly detailed and specific in nature. It includes multiple references to the rights of future generations to the environment and environmental protection as a responsibility more generally.

The first reference is in Article 9, the section which elaborates on the purpose and the function of the state. In this section, Clause 6 refers to the responsibility of the state to guarantee responsible use of natural resources and “preserv[ing] the environment for the welfare of the present and future generations” (Constituent Assembly of Bolivia, 2009, p 8). However, this clause also includes a phrase about resources stimulating industrialization and their role in development. Put in the same sentence, it’s unclear how these conflicting ideas are suggested to be applied together.

The second reference is in the chapter on ‘Rights of the Nations and Rural Native Indigenous People’, specifically Article 30 which outlines their rights. The constitution was amended in 2009 primarily to add this section because many of the regions in Bolivia, particularly populated by indigenous groups, were seeking greater autonomy and defense of their rights. This section refers to right to a “healthy environment”, the benefits of natural resources exploitation in their territory, and exclusive rights to the renewable resources in their territories (Constituent Assembly of Bolivia, 2009, p 15).

In addition to the two sections above which mention environmental rights in relation to other topics, there is also a section specifically in the chapter on Social and Economic Rights which outlines Environmental Rights in their own right. In this section, not only is provision made for everyone to have the right to a “healthy, protected and balanced environment... [which] must be granted to individuals and collectives of present and future generations” but it also explicitly states that “any person, in his own right or on behalf of a collective, is authorized to take legal action in defense of environmental rights (Constituent Assembly of Bolivia, 2009, p 16). This article explicitly provides for the legal representation of future generations in defense of their rights to a healthy environment.

Finally, in Article 108, where the duties of Bolivians are outlined, protection and defense of natural resources, their sustainable use for future generations and an environment suitable for life is explicitly stated (Constituent Assembly of Bolivia, 2009). Seen together, these four statements cover comprehensively each of the ways in which the state could provide a legal framework for rights of future generations, providing for: duties and responsibilities of the state, duties and responsibilities of individual citizens, the right of citizens and future generations to a healthy environment, and provision for legal defense of these rights and responsibilities.

Outcome

In Bolivia, the recent changes to the constitution cannot be seen out of the context of the social and political turmoil the country has experience over the course of the 20th Century. The redrafting of the constitution, which began around 2006, after failed attempts to reform in 2002, 2004 and 2005, means the public consciousness on the topic is higher than in states with long standing, functioning constitutions. In the granting of environmental rights, the institutionalization of the rights of future generations and the rights of management and ownership of natural resources and territory, cannot be separated from the ongoing struggle of indigenous people in Bolivia to establish fair and equal rights and consideration in the legal framework of the state.

Although the clauses have not been tested in courts, a new law in 2012 was passed which built on these constitutional articles to give rights to nature in the Law of the Rights of Mother Earth (Callahuanca, 2012; Vidal, 2011). This law evokes both the environmental clauses in the constitution and also draws on the cultural priorities of the indigenous people of Bolivia. It is unlikely this law would have been possible without the constitutional provisions, framework and priorities outlined as the basis for it to build upon.

Impact & Effects

The Bolivian constitution, in more ways than just the environmental Articles, marks an important moment in the state's socio-political development. It defines itself as anti-colonization, anti-neoliberalism, and pro-pluralism, democratic, pro-solidarity, pro-unity, pro-equality and communitarianism. It is possible that in addition to the constitution explicitly providing a path to legal cases on the rights of future generations and marking an important development in environmental law, this is also importantly one part of a larger narrative, one of indigenous rights and decolonization.

In addition, because of the recent changes in governance and leadership in Bolivia, and multiple attempts to reform the constitution before 2009, as well as a further, unsuccessful attempt in 2016, it is hard to clearly identify whether the new constitution has established itself in society to have significant legitimacy or authority when the political system seems in such a state of dynamism and flux.

10.2.6 Brazil

Description

The Constitution of Brazil is an incredibly detailed and complex outline of the functioning of the state with comprehensive and explicit provisions and rules for the governance of the country. In the context of the level of detail of the document as a whole, the environmental provisions, and particularly those related to future generations, are comparatively less developed, however, present nonetheless. Environmental provisions in the constitution of Brazil appear in two main ways: the first in the context of a range of other sections or articles about, for example, agriculture; and the second, in its own section.

First, in section defining 'The Union', the constitution outlines where responsibility sits to protect the environment, which is a shared responsibility between multiple levels of government (The Union, States, Federal Districts and Counties). It does not explicitly mention future generations anywhere in this section on responsibilities of the state. In addition to this, there are explicit references in sections outlining 'Health', 'Agricultural Land Policy' and 'Indians' which reference the role of environmental protection and work to integrate environmental norms into other areas of governance (National Constituent Assembly of Brazil, 2014). Finally, the constitution includes in the core principles of the economic activity that environmental protection is a core principle, and explicitly refers to considering environmental protection with relation to mining and petroleum and its by-products (National Constituent Assembly of Brazil, 2014).

Second, there is a dedicated section in the constitution for elaborating on the protection of the environment, which begins by establishing a right: "everyone has the right to an ecologically balanced environment, which is a public good for the people's use and is essential for a healthy life" (National Constituent Assembly of Brazil, 2014, p 15). In addition to this enforceable right, it establishes the duty to preserve it for future generations. This section goes on to elaborate on requirements of impact assessments, environmental education, links of environmental protection to

life and quality of life, and protection of specific lands and ecosystems (National Constituent Assembly of Brazil, 2014). This clause is detailed in its provision of rights, duties and outlining specific legal expectations of the government.

Outcome

While detailed provisions in the constitution for environmental protection and rights are certainly one important step for an institution, this does not guarantee the enforcement of these rights and responsibilities, let alone more vague clauses about future generations and intergenerational equity. The clauses outlined in the constitution related to environment and future generations have not been tested in court, and appear to risk having the opposite effect than what they intended in the current political climate, where there is backlash rather than integration and acceptance of these legal norms.

Impact & Effects

A key indicator for the success of constitutional articles such as these is their relationship with the protection of the rainforest, as Brazil's key natural resource, ecological conservation area and key contributor to planned emissions reduction of the state. While recent studies point out that deforestation has slowed in the past decade, which roughly coincides with the time period since the constitution came into force, there has also been a recent political push to amend this section of the constitution to lessen requirements and responsibilities in this area (Schiffman, 2017). Perhaps it is a sign of effectiveness if agricultural business wants to reform the regulation because of how restrictive it is, however the fact that the current political leadership in Brazil supports this reform, is a threat to any legitimacy and authority the constitution might have had in this regard (Schiffman, 2017). In this way, this example shows that established constitutional rights need to be coupled with integrated institutional buy-in and norm development in order to become a substantial part of the governance landscape.

10.2.7 Ecuador

Description

The constitution of Ecuador is perhaps the best-known constitution for its provisions to guarantee rights to people of a healthy environment through its detailed and integrated clauses around this, and for its provisions to grant rights to nature. The constitution, ratified in 2008, marked the introduction of a wide-range of new social and environmental provisions, in particularly ones dealing with Indigenous people, in an attempt to move towards a more equal and inclusive society in Ecuador (Schweimler, 2008). While the constitution includes new developments like giving rights to nature, it does not explicitly discuss the relevance to future generations or intergenerational equity as clearly as other less extensive constitutions have.

The constitution includes environmental protection in four keys ways, and intergenerational equity explicitly in two of these ways and one additional clause. The first way that this is provided for is in the first chapter outlining the Basic Principles of the state. In this section the constitution claims that sustainable development and protection of the country's natural assets are a duty of the state (National Assembly of Ecuador, 2008). The second way that environmental protection is provided for is in the section on Rights, in multiple ways. In the first statement about rights, the constitution established that nature has rights (National Assembly of Ecuador, 2008). Further in this section, the right to a healthy environment is established in section two. The section on Rights also established that environmental protection is also an important part of Education, Healthy, and Habitat and Housing, and right to Freedom demonstrating that the topic is not just its own clause but also an integrated principle across other topics of governance, rights and state responsibility (National

Assembly of Ecuador, 2008). In addition to this the right to certain natural resources, such as water is also firmly established. Furthermore, similar to the Bolivian constitution, the Ecuadorian constitution establishes the rights of indigenous people in relation to the environment, particularly their role in conservation and protection, and their access and control over renewable and non-renewable natural resources (National Assembly of Ecuador, 2008). Finally, in the section on Rights, the constitution elaborates in an entire chapter of its own, the rights of nature. Not only is nature afforded rights, but also it establishes that people can enforce those rights on behalf of nature, saying that: “persons, communities, peoples and nations can call upon public authorities to enforce the rights of nature” (National Assembly of Ecuador, 2008, p 47).

In spite of these extensive provisions for the right to a healthy environment and rights of nature, none of these link these well-established rights to future generations. Instead the language of the rights of environment and nature are largely about protection and conservation rather than about future conditions or future rights. The only section which explicitly links environment and future generations is in the section on “The Good Way of Living”, which includes a chapter on nature environment where it explains that “the state shall guarantee a sustainable model of development... and ensures meeting the needs of present and future generations” (National Assembly of Ecuador, 2008, p 152). This section also evokes the precautionary principle and the polluter pays principle in its language about decision-making and responsibility for damages. It concludes by naming the state as guardian over the environment, jointly responsibly with citizens of Ecuador.

In addition to the link drawn between future generations and the environment, the constitution also outlines rights for “intergenerational participation” and explicitly prioritizes young people in the section about rights. While this statement is a vague political guideline for participation in governance and decision-making it has led to an important outcome, nonetheless (elaborated on in the next section).

Outcome

There are two important outcomes from the constitutional changes in Ecuador. The first, is that following the constitutional provisions for greater participation generally, and the specific elaboration about intergenerational participation and young people and elderly people, the National Council for Intergenerational Equity was established. The purpose of this Council is to ensure equity between the generations, and to fulfil the obligation for participation as outlined in the constitution by providing a means for citizens and civil society to participate in governance through deliberation, representation, non-binding decision-making, and recommendations (Latinno, 2017).

The second outcome of the constitution can be seen in the first successful case evoking the article on the rights of nature in 2011. The case was petitioned by two individuals in the Provincial Court of Loja against the impacts of a road construction project on a river and downstream consequences of this (Greene, 2017). However, the potential for impact and the extent to which cases like this goes on to shape the governance landscape and implement intergenerational is yet to be seen.

Impact & Effects

The level of detail and the explicit language on the rights to a healthy environment, certain specific natural resources and the rights of nature that is specified in the Ecuadorian constitution has provided a legal foundation for the country for cases, like the above mentioned to be numerous and substantial.

However, when the ratifying a new constitution is as highly politicized of an act as it was in the context of the case in Ecuador, the potential for longevity of these legal foundations could be

questioned, and only time and further election cycles will confirm the feasibility of this progressive legal foundation to the state.

10.2.8 France

Description

The French constitution of the Fifth Republic, first ratified in 1958 is unique in that its core function is to outline the way in which the government will function, rather than to outline rights. In fact, there is no explicit section which deals with rights as such. Instead it depends on three documents to outline rights: the Declaration of the Rights of Man, the Preamble to the 1946 constitution, and the Charter for the Environment (Constitutional Council, 1958). In addition, in the fifth section, the constitution also outlines all of the aspects of life that the government will make statutes on. This essentially passes the responsibility for detailed law-making over to the government, rather than expecting the Constitutional Council to do this. This legal framework adheres to the principles of representative democracy, but allowing elected representatives to make the laws ruling the country rather than enshrining detailed provisions in the constitution.

The French constitution on its own, therefore only mentions environment in two contexts: first, to establish that the government will create laws on the preservation of the environment; and second, to establish an Economic, Social and Environment Council which serves as an scrutiny and accountability mechanism for the government (Constitutional Council, 1958). Aside from these two places, which do not establish any rights or legal provisions, but instead carve out places where legal provisions to be made, there are not further references to environmental rights or future generations in the French Constitution.

According to the French constitution's preamble and legal interpretation of this, the Declaration of the Rights of Man and the Charter for the Environment serve as the rights-defining section of the constitution and have constitutional status (Marrani, 2015). In the case of the Charter for the Environment, which was adopted in 2004, and added to the constitution through a constitutional amendment in 2005, it became the "constitutionalization of environmental issues" and has sense been heralded as an "environmental bill of rights" and a significant legal development (Marrani, 2015, p 384).

The Charter for the Environment in its Preamble outlines the environment norms for the state to adhere to, including but not limited to the needs and of future generations and safeguarding the environment in the interest of the Nation. In its articles its language gives legal significance to the precautionary principle (Article 4 and 5), public policies adherence to sustainable development, the right to information, participation and the right to a healthy environment (Constitutional Council, 1958). It also outlines the need for environmental education, research and international action.

Outcome

The Charter has been used in court cases, such as the case in 2008 that ruled on GMO's and many others, but it has not been used on the topic of intergenerational equity or climate change specifically.

Impact & Effects

As ground-breaking of a legal development as the enshrining into the constitution an environmental charter might be, it depends on the initiative of people and parliamentarians to enforce this (Tremmel, 2006).

Marrani (2015) analyses the potential effects of the charter but claiming that there are unclear legal effects, which he called political effects, and clear legal effects. The clear legal effects refer to the Articles 1 to 7 which describe in formal legal language rights or responsibilities, giving these articles significant authority. He also describes that the preamble and Articles 8 to 10 provide for political effects in the way that they develop norm norms and contribute to the agenda. Related to this, it would be an entirely different piece of research to explore this idea, however, when seen in the context of French leadership on sustainable development and climate change in the past decade, this charter, which explicitly mentions France's international work on environment, could be framed as a significant moment in the narrative the builds up to the Paris Agreement and the role of French leadership in this.

Heralded as a charter for environmental human rights, this is undoubtedly an important moment in the normative and conceptual development of intergenerational equity, environmental law, and environmental justice. However, much like the reality that there are still human rights infringements even with international human rights charters, a charter itself does not guarantee the application of the principles described in it.

10.2.9 Kenya

Description

The Kenyan constitution, ratified in 2010, serves as an example of a thorough and detailed way to include environmental rights for present and future generations in the legal foundation of a country. The constitution has three key provisions for environmental rights that provide a comprehensive framework for legal action to defend these rights in the country.

The first of these provisions is in the norm setting sections, both the preamble and in the Rights and Fundamental Freedoms section which establishes the 'Bill of Rights' for the country. Not only does the Preamble to the constitution explicitly mention that sustaining the environment for future generations as an initial commitment of the country, but in addition the 'Bill of Rights' provides for this as a fundamental right. In Article 42 it establishes that "every person has the right to a clean and healthy environment" and then goes on to specify the clauses later in the constitution which outline in detail these legal provisions (Government of Kenya, 2010; Parliament of Kenya, 2011).

The second of these provisions is the extensive chapter outlining the legal framework for Land and Environment. This chapter includes 12 Articles and over 30 clauses within these articles which outline a comprehensive legal framework for all aspects of land and environment aspects. Most notable to implementing intergenerational equity are Articles 69 and 70 which outline the obligations of the state and the enforcement of environmental rights (Government of Kenya, 2010). While Article 69 outlines some key aspects of environment, the language of each of the clauses vary in their enforceability. It may not be possible to legally enforce an obligation that "the state shall encourage public participation...[or] work to achieve and maintain a tree cover..." (Government of Kenya, 2010). However, other such clauses, like "The state shall ensure the equitable sharing of the accruing benefits [from natural resources]" is an enforceable right (Government of Kenya, 2010).

In addition to this, Article 70 outlines the process and conditions for enforceable environmental rights, saying "If a person alleges that a right to a clean and healthy environment recognized and protected under Article 42 (see above paragraph) has been, is being or is likely to be, denied.... The person may apply to a court for redress..." (Government of Kenya, 2010). The clause then goes on to outline exactly what can be claimed and how. What is particularly notable is that it is established that the claimant doesn't need to suffer personally. This has been cited as a reason for rejecting

cases on environmental protection all around the world over the past couple of decades and the inclusion of this clause shows learning and development from other cases.

Finally, the constitution allows for the creation of a specific mechanism for dealing with environmental cases, but establishing in Article 162 that a specific environmental High Court will be established to deal with cases evoking the rights of Article 42 and 70 (Government of Kenya, 2010).

Outcome

A clear initial outcome is that the High Court for Environment and Land matters has been established based on the provisions in the constitution (The Judiciary of the Republic of Kenya, 2014). However, the situation resulting is not as clear as the text in the constitution would make it seem. A case in 2016 related to Article 42 and 70 has highlighted the issue of hierarchy of the courts and interrelations within the legal system of the state *Malindi Law Society v. Attorney General & 4 others*, 2016). Creating Environment and Land specific high courts risks undermining the interrelated nature of these cases with other issues which would not be the jurisdiction of these specific courts and the local nature of many of these cases.

Impact & Effects

The constitutional clauses discussed here have been tested in a significant court case in 2006, which is clearly related to intergenerational equity but the enforcement of the outcome of this case has been unclear (High Court of Kenya, 2006). This is elaborated on in Section 5.5. In addition, there is a constitutional foundation for a further mechanism for intergenerational equity, the youth quota in the Kenya parliament. While there is not clear information about the impact of this case or the youth quota yet, they are still important impacts on the governance landscape of this constitutional foundation.

10.2.10 Maldives

Description

The Maldives constitution, ratified in 2008, has one article which relates to intergenerational equity and three others which relate to the right to a healthy environment. The first of these, Article 22, is in the section in Fundamental rights where it is outlined that the state has a “fundamental duty to protect and preserve the natural environment... for the benefit of present and future generations” (Republic of Maldives, 2008, p 21). This article also includes a statement about undertaking social and economic goals balanced with prevention of ecological degradation from these activities.

The constitution also outlines in Article 23, the right to a healthy and ecologically balanced environment, as one of the economic and social rights of every citizen (Republic of Maldives, 2008). This article also includes other much more specific rights, such as right to sewage systems and electricity. Second, the constitution includes in the article outlining the responsibilities and duties of citizens, Article 67, that it is a responsibility “to preserve and protect the natural environment” and “to abstain from all forms of pollution and ecological degradation” (Republic of Maldives, 2008, p 33). Finally, the constitution also outlines that it is also the responsibility of decentralized administrations “to establish a safe, healthy and ecologically diverse environment” (Republic of Maldives, 2008, p 97).

Outcome

Prior to this constitution being ratified, the Environmental Protection and Preservation of the Maldives Act was passed in 1993, making it difficult to determine whether any impacts that might

have been seen result from the constitution, or whether the constitution is formalizing a norm that was already present in the country. In addition, there were no other outcomes identified.

Impact & Effects

While some aspects of the aspects outlined here may be having an impact, it undermines the legitimacy of the article and constitution as a whole to include phrases that make it the responsibility of citizens to “abstain from all forms of pollution” because this is simply an impossible feat (Republic of Maldives, 2008). If this clause were enforced, it would mean that the Maldives would need to become an entirely circular and zero-carbon country, however, they are not being enforced in this way.

10.2.11 Nepal

Description

The Nepalese constitution, ratified in 2015, includes provisions for intergenerational equity and environmental rights in two key places, first in the section on fundamental rights, and section where the state outlines guiding policies and principles.

In the Fundamental Rights section, the constitution clearly outlines the right to live in a healthy a clean environment (Government of Nepal, 2015). However, the provision of this clear right in Article 30, is undermined by further clauses in this article, which go on to say that this right should not obstruct the need to “strike a balance between environment and development” (Government of Nepal, 2015, p 23). Therefore, in spite of the clear right in Clause 1 of this article, Clause 3 offers a pathway to undermine any claims to this right. This section does not include further elaboration on this, and does not reference the intergenerational or temporal aspect of this right to a healthy environment.

The second section which includes reference to intergenerational and environmental rights is in the section on the guiding principles and policies of the state. Much like this section in other constitutions, it is non-binding, but instead lays out a framework for governance of the state. It includes a section on principles, which provides a normative framework, and a detailed elaboration of state policies. In this section there is both integration of environment concepts in other policies, such as development, tourism, and land and agriculture, as well as specific statements on the environment (Government of Nepal, 2015). The state policy on conservation and the management of natural resources is the only place where the concept of intergenerational equity appears in the constitution, in spite of the more than 20 other references to environmental protection. In this clause, it says that the “state shall pursue a policy of conserving the natural resources... by imbibing the norms of inter-generational judicious use of it and for the national interest” (Government of Nepal, 2015, p 33). It also goes on to mention fair distribution, and calls for policies to be developed in a way that adheres to the principle of sustainable development in a way that evokes both concepts of intergenerational justice as well as intra-generational justice. This section also includes specific clauses on forestry, biodiversity, natural disasters, and others.

Outcome

There has not yet been an outcome from these clauses for two reasons: first, because the constitution was only ratified at the end of 2015 and its likely that any resulting policies or legislation would take time to be developed following this; and second because the new constitution was ratified only months after the devastating earthquake of the spring of 2015. Because of the natural

disaster and still ongoing recovery on this, national priorities are currently focused on providing for basic needs.

Impact & Effects

It is yet to be seen whether these clauses have an effect in Nepal.

10.2.12 Portugal

Description

The Portuguese constitution, ratified in 1976, has extensive and explicit provisions for environmental protection, intergenerational equity and the integration of environmental priorities comprehensively into activities of the state and citizens.

The first of these provisions is found in the section on Fundamental Principles, in which there are multiple sections which relate to this topic. Most clearly is Article 66, which elaborate on the "right to a healthy and ecologically balanced living environment" (Constituent Assembly of Portugal, 2005). This article goes on to include clauses which relate to controlling pollution, developing reserved land and nature, integrating environmental objectives into other sectors, education, and fiscal planning that is compatible with environmental protection and sustainable development. In addition to this comprehensive list, this article also includes a clause which explicitly outlines the concept of intergenerational equity stating that the state promotes "the rational use of natural resources... with respect for the principle of inter-generational solidarity" (Copnstituent Assembly of Portugal, 2005, p 33).

In addition to Article 66, the section on Fundamental Principles also includes ---- other references to environmental protection that are integrated into other concepts. First, in the Fundamental Tasks of the state, is it outlined the need to effectively implement environmental rights, and preserve the environment and natural resources (Constituent Assembly of Portugal, 2005). Following this, clauses on health also include reference to the need for a healthy environment to ensure human health and well-being. In addition to the Fundamental Principles, the section outlining the Organization of the Economy includes a general normative guide of "the preservation of the ecological balance" as core to economic development, as well as specific goals relating to land, natural resources and energy (Copnstituent Assembly of Portugal, 2005, p 41).

Outcome

In 2014 Law Number 19 put into practice the principles outlined in the constitution around environmental protection and intergenerational equity with a new piece of environmental legislation focused on sustainable development (Soares, 2016).

Impact & Effects

The impact of the extensive and detailed constitutional provisions can be seen in the principles outlined in Law No. 19, which includes specific concepts of intra- and inter- generational equity, sustainable development, polluter pays principle, and other details of accountability and regulation (Soares, 2016). The new environmental policy also includes references the pursuit of a low carbon society and planning for the long-term, two fundamental concepts of intergenerational equity as discussed here. Therefore, it seems that the normative significance and perceived legitimacy of these constitutional clauses have created a legal environment whereby state policy puts into practice these legal principles.

10.2.13 South Africa

Description

The constitution of South Africa, ratified in 1996, was negotiated as part of the process which unified the government and ended the apartheid and because of this took five years to draft and agree. The constitution includes an article in its Bill of Rights which provides for rights related to the environment and future generations. Article 24 is a good example of how to clearly specify what implementation for environmental rights means. It does this in two key ways; first, it doesn't just specify that everyone has the right to a healthy environment, it specifies that everyone has the right to an environment that does not harm their healthy & well-being, making it a personally actionable and defensible clause; second, it specifies the measures through which the "benefit of present and future generations" should be implemented, which includes pollution prevention, conservation, and sustainable development (Constitutional Assembly of South Africa, 2012, p 93).

In addition to these clear rights in the Bill of Rights, the constitution also explicitly places monitoring the progress of the realization of the rights in the Bill of Rights, explicitly listing environmental rights, under the mandatory remit of the South African Human Rights Commission (Constitutional Assembly of South Africa, 2012). The clarification affords a specific mechanism additional to normal judicial procedures, to enforce the intergenerational and environmental legal provisions in the constitution.

In addition to these rights, the constitution also specifies that local government has a role to play in promoting a safe and healthy environment at the local and municipal level.

Outcome

Two years following the constitution, the first National Environmental Management Act was passed, putting in to place a legislative and regulatory framework for environmental management in accordance with the constitutional Article for the country. Subsequent amendments have also been made to this which allow for further specification in particular regulatory areas of natural resources. This Act uses some of the language of the constitution around future generations and has also built in the principle of environmental justice, claiming that justice for vulnerable groups must be pursued (Office of the President, 1998). However, the act still lacks detail which could build on the legal framework already established in the constitution in these areas.

In addition, the South African Human Rights Commission has also clearly established environment as one of their key seven focus areas, however, their work does not extend to the actual application of the concept of intergenerational equity established in the constitution.

Impact & Effects

While the constitution provides for a clear framework of environmental rights through which intergenerational equity can be implemented, the next level of governance which deals with the application of these rights has lost this conceptual base in its language and in its implementation. There are clear ways in which the implementation of this concept in current work, for example in the Human Rights Commission's work on rural rights to natural resources and the impacts of mining, could enhance the results of these programs to improve justice and equity for present and future generations.

Given the legal framework that already exists, the legislative program resulting from this, public engagement with the constitution and resulting legitimacy, the accountability mechanism and

integration of environmental principles, and the potential role of customary laws and traditions, it seems as though South Africa is close to having significant implementation.

10.2.14 Uganda

Description

The Uganda constitution, ratified in 1995 as their first constitution of the state outlines environmental rights and objectives in four key ways in the constitution, however only one of these mention future generations and make any reference to intergenerational equity. The first way that it doesn't this is in the section which outlines the National Objectives, in which three key things are included: first, that the state shall "promote" sustainable development "present and future generations"; second, that natural resources will be managed in a way "to meet the development and environmental needs of present and future generations"; and finally, the state shall "promote" energy policies that combine basic needs with environmental conservation (Constituent Assembly of Uganda, 2006, p 28). While this section crucially connects future generations needs with development, natural resources, and conservation, the text does not ascribe specific responsibility as every legally binding phrase includes a vague implementation action, such as 'promote', or 'all possible measures'.

In addition to this, the constitution also outlines both the right of citizens to "a clean and healthy environment" in Article 39, but it also makes it the responsibility of citizens to also protect the environment (Constituent Assembly of Uganda, 2006, p 50). Article 39 makes a healthy environment an enforceable right.

Finally, the constitution includes a section on the management of Land and Environment, in which detailed rules, responsibilities and regulations are outlined. In this section, it specifically calls on parliament in Article 245 to make more specific measures for pollution management, sustainable development and environmental awareness raising (Constituent Assembly of Uganda, 2006).

Outcome

While the government has indeed established a further mechanism and further laws, as outlined in Article 245, it is not clear that enforcement of these is effective and it does not seem to have carried on the link to the concept of intergenerational equity and future generations. In addition, the most legally substantial part of the constitution, which outlines enforceable rights, had no enforcement mechanism for the first 20 years of the constitution's existence. It is only in 2015 that the government agreed upon a mechanism for dealing with infringements to the Fundamental Rights section of the constitution, under which these two rights and duties fall.

Impact & Effects

Constitutional provisions such as those in the Ugandan constitution are one step towards implementation of intergenerational equity, however without an effective enforcement mechanism, or in this case an enforcement mechanism at all, the governance mechanism lacks any accountability, legitimacy or potential for impact.

10.3 Appendix 3: Court Cases Excluded from Analysis

10.3.1 Argentina v Uruguay

The International Court of Justice case between Argentina and Uruguay concerning the Pulp Mills on the River Uruguay is often included in literature as an example of a case that rules on intergenerational equity. However, upon investigation into this case, there is almost no reference to this concept and inclusion of this case into literature on the topic makes a normative assumption that including the principle of sustainable development equates intergenerational equity. It does however, make substantial reference to a number of international legal norms (both binding and non-binding) as well as referencing the Slovakia-Hungary case, which contributes to these becoming more widely accepted legal norms (Argentina v. Uruguay, 2006).

10.3.2 Denmark v Norway

Similar case to Argentina v Slovakia case, the International Court of Justice case between Denmark and Norway in 1993 related to a conflict over territory and resources in the North Sea, the statement by Weeramantry presents an important contribution to the development of law within the International Court of Justice. Weeramantry's statement on the case elaborates specifically on the challenge of rulings on equity and the operationalization and implementation of it: "We are confronted here with the difference between, on the one hand, the question of the definition of equity in abstracto and, on the other hand, the question of whether a concrete situation, measure or decision is equitable." (Weeramantry, 1993, p 210).

10.4 Appendix 4: Youth Quotas Examples

10.4.1 Egypt

Description

The 2014 constitution of Egypt outlined adequate representation of disempowered groups as a priority, specifically outlining 16 seats for young people spread across different electoral districts (Morsy, 2015). However, this same constitution outlines that the minimum age for public office is 25, making the window of age for youth representatives quite small.

Outcome

As a result of this policy, and general levels of youth engagement in politics in Egypt, particularly within the context of the recent revolutions and political upheaval, 54 young people were selected as representatives, which is more than the quota prescribes (Arab Republic of Egypt, 2014). The Egyptian government have celebrated the diversity of the new government, as being inclusive of media, Christians, women and young people, however the legitimacy of this government has been generally under question and scrutiny.

Impact & Effects

The electoral results of the 2015 election seems to point towards an effective policy on youth participation, but this does not take into account other factors for increasing youth engagement in politics, nor does it consider the influence of these individuals once in power.

10.4.2 Kenya

Description

In spite of Kenya's significant youth movements, and demographic situation with 67% of the adult population being youth, representation is minimal. The constitution does provide for representation of special interest groups to fill minimum quota's in parliament. In the case of youth, this is the provision of 2 youth members in the senate (Muchiri, 2017). In addition to the minimum quota, the

constitution also makes normative statements about the government representing all demographic groups and the value of diversity (Government of Kenya, 2011). The Kenya Youth Senate and other advocacy groups often contrast these value statements in the constitution with the actual mechanisms for implementing these values (Okore, 2015).

Outcome

As with many other similar countries, the challenge of successful implementation of youth quotas is that details of the mechanism which provides for youth representation falls short of achieving the normative or value aim outlined in the constitution or other policy or value frameworks. There is no evidence of the representation resulting in specific changes.

Impact & Effects

One further unintended impact of the political relations around youth quota's in Kenya is that where there is a dominant youth movement and organization advocating for change, there is the question of whether quota's or other representative figures just come to represent the particular organization in government rather than youth as a whole.

10.4.3 Kyrgyzstan

Description

In 2010 changes to the election law in Kyrgyzstan resulted in the introduction of youth quota's in the parliament mandating that 15% of party candidates had to be younger than 36 (Freedom House, 2017). However, this mechanism was designed in such a way that while it guaranteed places on party lists for youth, it doesn't specify that they need to be included in the lists that are then selected as representatives for the parliament.

Outcome

In practice, this provision can be skirted around by political parties complying with the youth quota requirements by having 15% of candidates as youth, but moving them to the bottom of the lists when it comes time to actually select representatives of the party to sit in parliament (Youth Policy, 2014).

Impact & Effects

In spite of the fact that the practice of this mechanisms is not taking place as it was intended to, the policy has still resulted in an increase of youth in parliament to 10% (Freedom House, 2017). However, according to another source which collected data by surveying governments, it claims that parliamentarians under the age of 40 make up 35% of their parliament (Inter-Parliamentary Union, 2016). This is likely because this quota brought more young people into the process, generally raising the profile and possibility of politics amongst them, however it's hard to know what the actual situation is.

10.4.4 Morocco

Description

Like many other countries in the region, Morocco introduced youth quotas relatively recently to try to deal with the growing division between young and old and the democratic deficit from their young population (around 74% of voters are under the age of 44) and the average age of their representatives. In 2011, in reaction to the growing civil discontent in Morocco and the revolutions taking place in other countries in the region which were largely led by young people, the Moroccan

government tried to increase participation, engagement and generally decrease tensions by adding a youth quota (Desrues, 2012).

In practice this means that there are 30 seats reserved for youth in the national parliament and these are filled by parties nominating youth to fill these seats from their national lists for representatives. This guarantees that party representation still takes place democratically, while increase youth participation and representation (Rhanem, 2015). However, following constitutional reforms in 2015, the provision for youth representation has been officially removed from the constitution.

Outcome

Often there is the assumption that if a measure has been added to the constitution or enshrined in law that there is a new legal guarantee and an enshrinement of a new norm. However, in this case where it was only one election period that this moment of youth representation seems an exception rather than a new standard. The creation and then removal of the youth quota is seen to be contributing to the growing environment of general contempt young people to the authorities and the other way around (Desrues, 2012). However the outcome of this policy is not all negative - Largely thanks to the changing dynamic in political parties and general increase in young people's participation in these, in spite of the constitutional reform in 2016 to remove this mechanism, the 2016 elections still saw the election of 30 young people into the parliament (Welford, 2016).

Impact & Effects

The fact that in the 2016 elections, 30 young people were still chosen by parties from their national lists to fulfil the previous requirement of the youth quotas in parliament is a promising sign that this policy has had an impact on the political norm in Morocco that signifies a more significant shift than a constitutional change. The combination of the continuation of this norm, with general dissatisfaction of young people of the governing authority could mean that this has instigated a much bigger change in representation and governance, but only time can tell the true impact of this.

10.4.5 Rwanda

Description

Rwanda has a strong history of using quota's as a means of achieving a peaceful and cohesive government following the genocide and socio-political challenges of the state. Since the first constitution there have been fairly extensive provisions in the constitution about quotas, in particular around female representatives and regional and ethnic group diversity being represented in the national government.

The youth quota was added into the constitution in 2015, and requires the national government to have two youth elected to the Chamber of Deputies. These are elected from the National Youth Council and have to have an equal gender split (Republic of Rwanda, 2015) (Republic of Rwanda, 2015). The Chamber of Deputies is the lower house of the Rwandan government, with a larger number of elected officials, making it so that the youth quota only compromises of 2% of the elected officials, and 1% of all the elected officials in the national government.

Outcome

There are no explicit outcomes from this mechanism and no means to measure the impact it has on government. In addition, it is difficult to imagine there being much impact, with only 1% of the representation and no representation at all in the upper chamber (Rwanda Parliament, 2017). With around 50% of the population below the age of 20, this quota may contribute negatively to the

government's effectiveness and apathy regarding the future and future generations because it is so disproportionate to the demographic breakdown of the country.

Impact & Effects

No impact could be found.

10.4.6 Sri Lanka

Description

In 1990 as a result of the findings of a Youth Commission, the Sri Lankan government passed its Local Government Elections Act which stipulated that 40% of seats needed to be given to 18-35 year olds. This is a significant amount of mandated representation for youth in Sri Lanka. However, in 2012, this Act was amended and the youth quota was removed in exchange for a mandated women's quota and softer language that encouraged 25% representation of youth but did not require it by law (Nafeel, 2017). The government defends this decision by saying that youth engagement should not be the responsibility of political parties and not a law of the government (Nafeel, 2017). In spite of 12 years of the most significant provision for youth representation, this governance mechanism no longer exists formally or legally.

10.4.7 Tunisia

Description

The functioning of Tunisia's provisions for youth quotas for representation in their parliament are dependent on the stability and viability of the whole system of democracy at present. The constitution of 2014 makes a few normative statements about the presence of youth, which have been acted on in the electoral process. These include Article 8, which states that youth should be active in building the nation, and Article 133 which states that election law shall guarantee the representation of youth in local elections (Constituent Assembly of Tunisia, 2014). These articles have manifested themselves in the current election law which stipulates that for each district with more than four seats, one male and one female under 35 must be included (Election Guide, 2014) (Election Guide, 2014).

Outcome

There was no explicit information about the number of youth members of parliament, or details about any of the elected officials on the government's website to confirm that this had actually taken place. Considering the political context of decreasing democratic and government legitimacy with the recent third postponement of the approaching elections, and the general political instability, it is difficult to assume, without evidence that this quota is actually being filled or having any impact on the political situation (Aliriza, 2014; Middle East Monitor, 2017; The World Bank, 2014; Yerkes & Muasher, 2017).

Impact & Effects

No impact could be found.

10.4.8 Uganda

Description

The Ugandan government had a mechanism described in its constitution for youth quota's as early as 1995. This demonstrates an early priority of inclusive government and representation of the government (Constituent Assembly of Uganda, 2006). In 2005, the Election Act was passed which

outlined the details of exactly how this and other quotas for parliamentary representation of specific interest groups would take place. This quota guarantees 5 youth representatives in parliament (Parliament of Uganda, 2005).

Outcome

Building on the legal provision of the quota the Parliamentary Forum on Youth Affairs was established by young parliamentarians who felt that five representatives could not adequately represent youth in all the ways that were necessary and so greater alliances needed to be built across government (Uganda Parliamentary Forum on Youth Affairs, 2017). Membership of the forum is now over 152 MP's.

Impact & Effects

The Youth Coalition, supported and enhanced by the Parliamentary Forum, has developed a youth manifesto which includes a broad analysis of youth issues, including explicit discussion of representations of the future and environmental issues (Youth Coalitions on Electoral Democracy, 2016). This demonstrates that connections have been made between youth representation and intergenerational equity.

However, in spite of this, recent political circumstances in Uganda and the longer story of their political environment may put a limit to the success of representation and empowerment such as this. Uganda is one example of many African governments in which the executive branch of government has dominated throughout history and continues to do so in their emerging democracies (Muriaas & Wang, 2012). Outcomes from representation and quota mechanisms such as this may be undermined by the fact that the branch of government in which they are a part lack authority and significance to begin with.

10.5 Appendix 4: Complete Table of Mechanisms

Country	Youth Representation			Institutions	Judicial	Constitutions	
	Youth Quota's	UN Youth Delegate	UNFCCC	Specialised Institution	Court Cases	All	Binding Only
Albania						X	
Andorra						X	
Angola						X	X
Argentina						X	X
Armenia						X	X
Austria			X				
Australia		X		X	X		
Azerbaijan						X	X
Bahrain						X	
Bangladesh					X	X	
Belarus						X	X
Belgium		X				X	X
Belize						X	
Benin						X	X

Bhutan						X	X
Bolivia						X	X
Brazil						X	X
Bulgaria		X				X	X
Burkina Faso						X	X
Burundi						X	X
Canada			X	X			
Cambodia						X	X
Cameroon						X	X
Cape Verde						X	X
Chad						X	X
China						X	X
Colombia						X	X
Comoros						X	X
DRC						X	X
Costa Rica						X	X
Croatia						X	X
Cuba						X	X
Czech Republic						X	X
Dominican Republic						X	X
East Timor						X	X
Ecuador				X		X	X
El Salvador						X	
Egypt	X					X	X
Estonia						X	
Ethiopia						X	X
Fiji						X	X
Finland		X	X	X		X	X
France				X		X	X
Gambia						X	
Georgia						X	X
Germany		X		X	X	X	
Ghana						X	
Greece						X	X
Guyana						X	
Haiti						X	
Hungary				X	X	X	X
India					X	X	
Indonesia						X	X
Iran						X	X
Iraq						X	X
Israel				X			

Jamaica						X	X
Kazakhstan						X	X
Kenya	X				X	X	X
Kyrgyzstan	X						
DPR Korea						X	
Republic of Korea						X	X
Kosovo						X	
Kyrgyzstan						X	X
Laos						X	
Latvia						X	X
Lesotho						X	
Lithuania						X	
Luxembourg						X	
Macedonia						X	X
Madagascar						X	
Malawi						X	X
Maldives						X	X
Mali						X	X
Malta				X			
Marshall Islands			X				
Mauritania						X	X
Mexico						X	X
Micronesia			X				
Moldova						X	X
Mongolia						X	X
Montenegro						X	X
Morocco	X					X	X
Mozambique						X	X
Myanmar						X	
Namibia						X	
Nepal						X	X
Netherlands					X	X	
New Zealand				X			
Nicaragua						X	X
Niger						X	X
Nigeria						X	
Norway			X		X	X	X
Pakistan					X		
Panama						X	X
Papua New Guinea						X	
Paraguay						X	X
Peru						X	

Philippines					X	X	X
Poland						X	
Portugal						X	X
Qatar						X	
Romania						X	
Russian Federation						X	X
Rwanda	X						
Sao Tome and Principe						X	
Saudi Arabia						X	
Senegal						X	X
Serbia						X	X
Seychelles						X	X
Slovakia					X	X	X
Slovenia						X	X
South Africa						X	X
Spain						X	X
Sri Lanka						X	
Sudan						X	X
Swaziland						X	
Sweden		X	X			X	
Switzerland		X				X	
Thailand		X					
Tunisia	X			X		X	X
Turkey						X	X
Turkmenistan						X	X
Uganda	X				X	X	X
Ukraine						X	X
United Kingdom				X			
United States					X		
Uruguay						X	
Uzbekistan						X	
Vanuatu						X	
Venezuela						X	X
Vietnam						X	X
Zambia						X	X
Zimbabwe						X	X

10.6 Appendix 5: Full Mechanism Scoring

	Average	Effects	Independence	Legitimacy	Feasibility	Accountability	Normative Significance	Total
Specialized Agency of Institution								
Australian National Sustainability Council (Disbanded)	0.2	0	0	0	0	0	1	1
Canadian Commissioner of the Environment and Sustainable Development	2.2	2	2	2	3	2	2	13
Finnish Committee for the Future	1.8	2	1	3	3	1	1	11
France - Council for the Rights of Future Generations	1.3	0	3	2	0	0	3	8
Germany – Parliamentary Advisory Committee for Sustainable Development	1	1	1	1	1	2	0	6
Hungary – Ombudsperson for Future Generation	2.2	3	2	1	1	2	4	13
Israel – Parliamentary Commissioner for Future Generations (Disbanded)	2	1	2	1	1	3	4	12
Malta Ombudsperson for Future Generations	0.3	0	0	0	0	0	2	2
New Zealand – Parliamentary Commissioner for the Environment	2.3	1	2	3	4	3	1	14
Wales - Future Generations Commissioner	2.5	0	3	3	3	2	4	15
Constitutions								
Binding Constitutions	2.8	2	4	2	4	3	2	17
Non-Binding Constitutions	2	2	2	1	2	2	3	12
Judicial Decisions								
International Court of Justice: Gabčíkovo-Nagymaros Project (Hungary/Slovakia)	1.8	2	3	2	1	1	2	11

Philippines Supreme Court: Oposa v. Factoran	2	2	2	1	2	1	4	12
Bangladesh High Court: Farooque v. Government of Bangladesh	1.5	1	2	1	1	1	3	9
High Court of Kenya: Mr Peter K Waweru v. Republic of Kenya	1.8	0	2	2	1	2	4	11
New South Wales Land & Environment Court (Australia): Peter Gray v. Minister of Planning	2.3	3	3	1	3	1	3	14
India Supreme Court: Goa Foundation v. Union of India & Others	2.5	3	3	2	2	2	3	15
High Court of Uganda: Kakuru v. National Environmental Management Authority	2	0	2	2	2	2	4	12
District Court of The Hague: Urgenda v. Dutch Government	2.3	1	3	3	2	2	3	14
Lahore High Court (Pakistan): Ashgar Leghari v. Federation of Pakistan	2	2	2	2	2	1	3	12
Youth Representation								
UN Youth Delegate Programme	1.2	1	1	1	1	1	2	7
UNFCCC Youth Party Representatives	1.2	1	1	1	1	1	2	7
Youth Quota's as Representation in National Governments	2	2	2	3	2	1	2	12
Average of Individual Factors		1.3	2	1.7	1.8	1.5	2.6	10.8

10.7 Appendix 6: Full List of Constitutional Clauses

Country	Type of Clause	Text/Quote
Albania	Explicit mention of future generations	"The state, within its constitutional powers and the means at its disposal, and to supplement private initiative and responsibility, aims at:...a healthy and ecologically adequate environment for the present and future generations... the rational exploitation of forests, waters, pastures and other natural resources on the basis of the principle of sustainable development..." (11)

	Non-binding environmental clauses	"The state, within its constitutional powers and the means at its disposal, and to supplement private initiative and responsibility aims at:... healthy and ecologically adequate environment for the present and future generations; the rational exploitation of ... [resources]... on the basis of the principle of sustainable development." (11)
Andorra	Explicit mention of future generations	"The State has the task of ensuring the rational use of the soil and of all the natural resources, so as to guarantee a befitting quality of life for all and, for the sake of the coming generations, to restore and maintain a reasonable ecological balance in the atmosphere, water and land, as well as to protect the autochthonous flora and fauna...." (10)
	Non-binding environmental clauses	"Willing to bring their collaboration and effort to all the common causes of mankind, and especially to those of preserving the integrity of the Earth and guaranteeing an environment fit for life for the coming generations," (5)
	Non-binding environmental clauses	"The State has the task of ensuring the rational use of the soil and of all the natural resources, so as to guarantee a befitting quality of life for all and, for the sake of the coming generations, to restore and maintain a reasonable ecological balance in the atmosphere, water and land, as well as to protect the autochthonous flora and fauna" (10)
Angola	Non-binding environmental clauses	Fundamental task of the state... "to promote harmonious and sustainable development throughout national territory, protecting the environment, natural resources..." (17)
	Right to Healthy Environment	Fundamental rights... "Everyone has the right to live in a healthy and unpolluted environment and the duty to defend and preserve it" (21)
	Citizen responsibility clause	Fundamental rights... "Everyone has the right to live in a healthy and unpolluted environment and the duty to defend and preserve it" (21)
	Clauses enabling other legal or policy frameworks	"The state shall take the requisite measures to protect the environment and... incur the correct location of economic activities and the rational development and use of all natural resources within the context of sustainable development, respect for the rights of future generations and the preservation of species. Acts that endanger or damage conservation of the environment shall be punishable by law." (21)
	Non-binding environmental clauses	Article 89, fundamental principles of the economy include "consumer and environmental protection" (34)
	More elaborate legal provisions	"Every citizen, either individually or through associations representing specific interests, shall have the right to take legal action... with the aim of annulling acts which are harmful to public health... the environment, quality of life... or any other collective interests." (30)
	Non-binding environmental clauses	"the objective of planning shall be to promote the sustainable and harmonious development of the country, ensuring a fair distribution of national income, preservation of the environment and quality of life for all citizens." (35)
	More elaborate legal provisions	Article 95, what constitutes public domain: "biological and non-biological resources", airspace, land, coastal and water territory, "mineral deposits, mineral and medicinal water sources, natural subterranean cavities and other natural resources existing in the soil and subsoil, with the exception of rocks, ordinary earth and other materials habitually used as raw materials in civil construction", "areas of land reserved for the protection n of the environment" (35-36)
Argentina	Explicit mention of future generations	"All inhabitants are entitled to the right to a healthy and balanced environment fit for human development in order that productive activities shall meet present needs without endangering those of future generations; and shall have the duty to preserve it...." (5)
	Right to Healthy Environment	"All inhabitants are entitled to the right to a healthy and balanced environment fit for human development in order that productive activities shall meet the present needs without endangering those of future generations." (5)

	Citizen responsibility clause	"... and shall have the duty to preserve it" (5)
	More elaborate legal provisions	"As a first priority, environmental damage shall bring about the obligation to repair it according to law. The authorities shall provide for the protection of this right, the rational use of natural resources, the preservation of the natural and cultural heritage and of the biological diversity, and shall also provide for environmental information and education. The Nation shall regulate the minimum protection standards, and the provinces those necessary to reinforce them, without altering their local jurisdictions. The entry into the national territory of present or potential dangerous wastes, and of radioactive ones, is forbidden" (5)
Armenia	Non-binding environmental clauses	"The state shall ensure the protection and reproduction of the environment and the reasonable utilization of natural resources" (5)
	Right to Healthy Environment	"everyone shall have the right to live in an environment favourable to his/her health and well-being, and shall be obliged to... protect and improve it." (11)
	More elaborate legal provisions	right to private property cannot damage environment (10)
	Explicit mention of future generations	State goals: "policies aimed at guaranteeing environmental security for current and future generations" (14)
	More elaborate legal provisions	Government shall: "implement state policies... on environmental protection" (28); responsible to divulge information (11)
Azerbaijan	Right to Healthy Environment	"Everyone has the right to live in a healthy environment. (15)
	More elaborate legal provisions	"... to collect information on the environmental situation... compensation for damage to the healthy and property... no one may cause threat or damage... the state guarantees the preservation of ecological balance and protection." (15)
	Citizen responsibility clause	"protection of the environment is the duty of everyone" (21)
Bahrain	Non-binding environmental clauses	"the state shall take the necessary measures for the protection of the environment" (6)
Bangladesh	Non-binding environmental clauses	"The state shall endeavour to protect and improve the environment and to preserve and safeguarded the natural resources, bio-diversity, wetlands, forests and wild life." (14)
	Explicit mention of future generations	carry on from the above clause 18A: "for the present and future generations" (14)
Belarus	Citizen responsibility clause	"It shall be the duty of everyone to protect the environment" (12)
	Right to Healthy Environment	"Everyone shall be entitled to a conducive environment and to compensation for the loss or damage caused by the violations of this right. The state shall supervise the rational utilization of natural resources..." (11)
	Non-binding environmental clauses	"The right of citizens of the Republic of Belarus to health care shall be secured by the development of... measures to improve the environment" (11)
Belgium	Right to Healthy Environment	"These rights include among others: The right to the protection of a healthy environment." (11)
Belize	Clauses enabling other legal or policy frameworks	Preamble: "the people of Belize... Require policies of state... which protect the environment." (7)
Benin	Right to Healthy Environment	"Every person has the right to a healthy, satisfying and lasting environment and has the duty to defend it. The state shall watch over the protection of the environment." (8)

Bhutan	Citizen responsibility clause	"Every Bhutanese is a trustee of the Kingdom's natural resources and environment for the benefit of the present and future generations and it is the fundamental duty of every citizen to contribute to the protection of the natural environment, conservation of the rich biodiversity of Bhutan and prevention of all forms of ecological degradation including noise, visual and physical pollution through the adoption and support of environment friendly practices and policies." (19)
	Right to Healthy Environment	"The Royal Government shall: (a) Protect, conserve and improve the pristine environment and safeguard the biodiversity of the country; (b) Prevent pollution and ecological degradation; (c) Secure ecologically balanced sustainable development while promoting justifiable economic and social development; and (d) Ensure a safe and healthy environment." (19)
	Clauses enabling other legal or policy frameworks	"Parliament may enact environmental legislation to ensure sustainable use of natural resources and maintain intergenerational equity and reaffirm the sovereign rights of the State over its own biological resources." (20)
	Explicit mention of future generations	"Every Bhutanese is a trustee of the Kingdom's natural resources and environment for the benefit of the present and future generations and it is the fundamental duty of every citizen to contribute to the protection of the natural environment, conservation of the rich biodiversity of Bhutan and prevention of all forms of ecological degradation including noise, visual and physical pollution through the adoption and support of environment friendly practices and policies." (11)
Bolivia	Right to Healthy Environment	"Everyone has the right to a healthy, protected, and balanced environment." (16); including rural and native people (15)
	Explicit mention of future generations	"The following are essential purposes and functions of the state... to preserve the environment for the welfare of present and future generations." (8)
	Rights of future generations to environment	"The exercise of this right must be granted to individuals and collectives of present and future generations." (15)
	More elaborate legal provisions	"Any person, in his own right or on behalf of a collective, is authorized to take legal action in defence of environmental rights, without prejudice to the obligation of public institutions to act on their own in the face of attacks on the environment." (15)
	Citizen responsibility clause	"the duties of Bolivians are... to protect and defend the natural resources, and to contribute to their sustainable use in order to preserve the rights of future generations. To protect and defend an environment suitable for the development of living beings." (32)
	More elaborate legal provisions	Integration of environment into education clause, international treaties clause, indigenous people clause, economic sections: "all forms of economic organization have the obligation to protect the environment" (98-99) "The industrialization of natural resources shall be a priority in the economic policies within the framework of respect for and protection of the environment." (100) And tourism (105)
	Clauses enabling other legal or policy frameworks	"the following are the areas of prerogative authority of the central level of the state... general policy of biodiversity and environment." (84-90) Resulted in "Law of Mother Earth: The Rights of our Planet"
	More elaborate legal provisions	"It is the duty of the state and the population to conserve, protect and use natural resources and the biodiversity in a sustainable manner... the population has the right to participate in environmental management." (106) Continues in 106-1121
Brazil	Clauses enabling other legal or policy frameworks	"any citizen has the standing to bring a popular action to annul an act injurious to the public patrimony... to the environment..." (12)

	Clauses enabling other legal or policy frameworks	Power given to States and Federal Districts to be liable for environmental damages; ministry to protect the environment and investigate work
	Non-binding environmental clauses	Economic order must observe environmental protection principles (126); private property and land policy must observe environmental principles
	Right to Healthy Environment	"Everyone has the right to an ecologically balanced environment, which is a public good for the people's use and is essential for a healthy life." (151)
	Explicit mention of future generations	"The government and the community have a duty to defend and to preserve the environment for present and future generations." (151)
	More elaborate legal provisions	Article 225 elaborates on many specific provisions for protecting the environment (such as impact assessments, education, responsibility & restoration, prosecution for damages (151)
Bulgaria	Non-binding environmental clauses	"The Republic of Bulgaria shall ensure the protection and reproduction of the environment... and the sensible utilization of the country's natural and other resources." (5)
	Right to Healthy Environment	"Everyone shall have the right to a healthy and favourable environment corresponding to established standards and norms." (12)
	Citizen responsibility clause	"... They shall protect the environment." (12)
Burkina Faso	Non-binding environmental clauses	Preamble text: "...CONSCIOUS of the absolute necessity to protect the environment" (3)
	Right to Healthy Environment	"The right to a healthy environment is recognized;" (7)
	Citizen responsibility clause	"... the protection, the defence and the promotion of the environment are a duty for all." (7)
	More elaborate legal provisions	"Every citizen has the right to initiate an action or participate in a collective action under the form of petition against the acts... infringing the environment..." (7); law determines fundamental principles of protecting the environment (19)
Burundi	Non-binding environmental clauses	"The state assures the proper management and rational use of the nation's natural resources, all in preserving the environment..." (9)
	Explicit mention of future generations	"... and the conservation of these resources for generations to come." (9)
	More elaborate legal provisions	Environment and nature consulted on for any project of economic or social development. (52)
Cambodia	Clauses enabling other legal or policy frameworks	"The state shall protect the environment and the balance of natural resources and establish a precise plan for the management..." (12)
Cameroon	Right to Healthy Environment	Preamble, "to the following principles:... every person shall have the right to a healthy environment. The protection of the environment shall be the duty of every citizen. The state shall ensure the protection and improvement of the environment." (4)
Cape Verde	Non-binding environmental clauses	"The following are the fundamental duties of the state:... to protect the land, nature, natural resources, and environment..." (16); Also in the context of economic activities in Article 88 (36)
	Right to Healthy Environment	"Everyone shall have the right to a health, ecologically balance environment.." (32)
	Citizen responsibility clause	"... and the duty to defend and conserve it" (32); also Article 82 (34)

	Clauses enabling other legal or policy frameworks	"The state and municipalities... shall adopt policies to defend and preserve the environment. The state shall stimulate and support the creation of associations to defend the environment..." (32)
Chad	Right to Healthy Environment	"Every person has the right to a healthy environment" (9)
	More elaborate legal provisions	"The state and the decentralized territorial collectives must see to the protection of the environment" (9); law defines fundamental principles, including protection of the environment (22); "Decentralized Territorial Collectivities assure... protection of the environment" (37)
	Citizen responsibility clause	"every citizen has the duty to respect and protect the environment" (10)
China	Right to Healthy Environment	"The state protects and improves the living environment and the ecological environment, and prevents and controls pollution and other public hazards..." (10)
Colombia	Non-binding environmental clauses	"Public health and environmental protection are public services for which the state is responsible." (14)
	Non-binding environmental clauses	Environmental protection embedded in agriculture, education, fiscal management, powers and responsibilities of different arms of the state, development planning, as it relates to standard of living
	Right to Healthy Environment	"Every individuals has the right to enjoy a healthy environment... It is the duty go the state to protect the diversity and integrity of the environment..." (20)
	Citizen responsibility clause	"The following are the duties of individuals and of the citizen:... to protect the country's cultural and natural resources and to keep watch that a healthy environment is being preserved." (23)
	Clauses enabling other legal or policy frameworks	"An act shall guarantee the community's participation in the decisions that may affect it." (20); annual report mechanism on the environment (83); Article 300 gives power to subsidiary government units
Comoros	Right to Healthy Environment	Preamble: "The proclaim... the right to an intact environment and the duty of all to preserve that environment" ("preamble considered an integral part of the constitution") (4)
Democratic Republic of Congo	Right to Healthy Environment	"All persons have the right to a healthy environment and [one] propitious for their integral development... the state sees to the protection of the environment and the health of the population" (15)
	Citizen responsibility clause	"... They have the duty to defend it." (15)
Costa Rica	Right to Healthy Environment	"All persons have the right to a healthy and ecologically balanced environment. For that they are legitimated to denounce the acts that infringe this right and to claim reparation for the damage caused." (12)
Croatia	Right to Healthy Environment	"Everyone shall have the right to a healthy life. The state shall ensure conditions for a healthy environment." (17)
	Citizen responsibility clause	"everyone shall be bound within their powers and activities to pay special attention to the protection of pubic health, nature and environment." (17)
	Non-binding environmental clauses	environmental protection with relation to limited free trade and property rights (Article 50), fundamental values of the state, role of local government units (Article 135)
Cuba	Non-binding environmental clauses	"The state protect the environment and natural resources of the country." (15); elaboration of departments in Article 106
	Explicit mention of future generations	"It recognizes their close link with the sustainable economic and social development for making human life more sensible and for ensuring the survival, welfare and security or present and future generations." (15)
	Citizen responsibility clause	"It is the duty of the citizens to contribute to the protection..." (15)

Czech Republic	Right to Healthy Environment	"Everyone has the right to a favourable environment. Everyone has the right to ... information... no one may... endanger or cause damage to the environment." (42)
	Non-binding environmental clauses	"The state shall concern itself with the prudent use of its natural resources and the protection of its natural wealth." (5)
Dominican Republic	More elaborate legal provisions	Elaboration of resource specific issues, renewable resources (mining & hydrocarbons) and water (14-17)
	Non-binding environmental clauses	Environmental protection linked with education, health, social development, and "economic regime" is based on environmental sustainability (among other things) (78)
	Non-binding environmental clauses	"The state recognizes collective and diffuse rights and interests.... Consequently it protects: The conservation of the ecological balance... the protection of the environment..." (34)
	Explicit mention of future generations	"...maintaining the environment for the enjoyment of present and future generations constitute duties of the state." (34)
	Right to Healthy Environment	"All people have the right... to the use and sustainable enjoyment of natural resources, to live in an environment that is healthy, ecologically balanced and adequate for the development..." (34)
	More elaborate legal provisions	"The public powers shall prevent and control.... Impose legal sanctions... objective responsibility for damages caused..." (34)
	Citizen responsibility clause	"the following are declared as fundamental duties of people:.. Protect the natural resources... conservation of a clean and healthy environment." (38)
	Clauses enabling other legal or policy frameworks	"formulation and execution, through law, of a plan [for the territory]... in accordance with the necessity of adaptation to climate change, is the priority of the state." (71)
East Timor	Non-binding environmental clauses	"the fundamental objectives of the state are.... To protect the environment and to preserve natural resources" (10)
	Right to Healthy Environment	"All have the right to a humane, healthy and ecologically balanced environment...."
	Citizen responsibility clause	"... and the duty to protect and improve it"
	Explicit mention of future generations	"... for the benefit of future generations."
	Non-binding environmental clauses	"the state shall promote actions aimed at protecting the environment and safeguarding the sustainable development of the economy"
Ecuador	Right to Healthy Environment	"The right of the population to live in a healthy and ecologically balanced environment... is recognized." (27); "the right to live in a healthy environment that is ecologically balanced, pollution-free and in harmony with nature." (45)
	Non-binding environmental clauses	Article 14 (ecosystems and biodiversity as matters of public interest) and 15 (state promote in public and private sectors clean technology, energy sovereignty, etc.) further environmental clauses
	More elaborate legal provisions	Environment mentioned in education (A. 27), culture (A. 29), housing and city space (A. 31), healthy (A. 32), children (A. 44), , indigenous people's rights and responsibilities (A. 57), economy, general principles of development (A. 275), land (A. 282), economy (A. 284/5), auditing (A. 291), exports (A. 306), administration (A. 313), property (A. 321), science & tech (A. 385), risk management (A. 389)
	More elaborate legal provisions	CH 7 Rights of Nature: "All persons.... Can call upon the public authorities to enforce the rights of nature... nature has the right to be restored..." (47)

	Clauses enabling other legal or policy frameworks	The state has right to establish the most effective mechanisms for dealing with damage or exploitation, and environmental services must be delivered by the state (47)
	Explicit mention of future generations	"The state shall guarantee a sustainable model of development.... And ensures meeting the needs of present and future generations." (152)
	Clauses enabling other legal or policy frameworks	" Environmental management policies shall be applied cutting across all sectors and dimensions... enforced by the state..." (152)
	More elaborate legal provisions	"the state shall guarantee the active and permanent participation of affected persons, communities.... All activities exerting environmental impacts.." (152)
	Clauses enabling other legal or policy frameworks	"The state shall adopt timely policies to avoid adverse environmental impacts where there is certainty about the damage... responsibility for environmental damage is objective... legal proceedings to prosecute and punish those responsible shall not be subject to any statute of limitations." (152)
El Salvador	Non-binding environmental clauses	"It shall be the state's duty to protect the natural resources, as well as the diversity and integrity of the environment, and to guarantee sustainable development." (29)
Egypt	Rights of future generations to environment	"Natural resources belong to the people.... To take into consideration the rights of future generation to them." (17)
	Non-binding environmental clauses	Economy consider environmental balance (18); food (26); development (58)
	Right to Healthy Environment	"every individual has the right to live in a healthy... environment. Its protection is a national duty." (20)
	Rights of future generations to environment	"The state is committed to taking the necessary measures to preserve it... ensure that sustainable development is achieved, and guarantee the rights of future generations thereto." (20)
Estonia	Citizen responsibility clause	"everyone has the duty to preserve the human and natural environment...." (8); also Article 34
	Clauses enabling other legal or policy frameworks	"... and to compensate for damage caused to the environment by him or her.... Procedure for compensation shall be provided by law." (8)
Ethiopia	Right to Healthy Environment	"All persons have the right to a clean and healthy environment" (18); "the government shall endeavour to ensure that all Ethiopians live in a clean and healthy environment." (34)
	More elaborate legal provisions	people have the right to consultation on planning and implementation of environmental policies and projects
	Citizen responsibility clause	"government and citizens shall have the duty to protect the environment" (34)
Fiji	Non-binding environmental clauses	Preamble: "declare our commitment to... safeguarding out environment." (8)
	Non-binding environmental clauses	State values: "a prudent, efficient and sustainable relationship with nature" (8)
	Clauses enabling other legal or policy frameworks	Economic conditions of environmental exploitation, must take into account risk and compensation for damage (27)
	Right to Healthy Environment	"Every person has the right to a clean and healthy environment..." (30)
	Explicit mention of future generations	"for the benefit of present and future generations through legislative or other measures." (30)

Finland	Citizen responsibility clause	"Nature and its biodiversity, the environment and the national heritage are the responsibility of everyone."
	Right to Healthy Environment	"The public authorities shall guarantee for everyone the right to a healthy environment..." (5)
France	Clauses enabling other legal or policy frameworks	"The French people solemnly proclaim their attachment to the Rights of Man and the principles of national sovereignty as defined by the Declaration of 1789, confirmed and complemented by the Preamble to the Constitution of 1946, and to the rights and duties as defined in the Charter for the Environment of 2004" (3)
Gambia	Citizen responsibility clause	"every citizen shall... protect and conserve the environment of The Gambia" (97)
	Clauses enabling other legal or policy frameworks	"the state shall pursue a policy of... Protecting the environment for the nation for posterity." (96)
Georgia	Right to Healthy Environment	"Everyone shall have the right to live in healthy environment..." (9)
	Citizen responsibility clause	"...Everyone shall be obliged to care for the environment." (9)
	Explicit mention of future generations	"With the view of ensuring safe environment.... With due regard to the interests of future generations the state shall guarantee the protection of the environment." (9)
	More elaborate legal provisions	right to information about the environment (9)
Germany	Explicit mention of future generations	"Mindful of its responsibility toward future generations, the state shall protect the natural foundations of life... all within the framework of the constitutional order." (27)
Ghana	Non-binding environmental clauses	"The state shall take appropriate measures needed to protect and safeguard the national environment for posterity... purposes of protecting the wider international environment for mankind." (33)
	Citizen responsibility clause	"It shall be the duty of every citizen... to protect and safeguard the environment." (37)
Greece	Right to Healthy Environment	"The protection of the natural and cultural environment constitutes a duty of the state and a right of every person."
	Clauses enabling other legal or policy frameworks	"The state is bound to adopt special preventative... measures for the preservation of the environment in the context of the principle of sustainable development." (13)
Guyana	Citizen responsibility clause	"Every citizen has a duty to participate in activities designed to improve the environment and protect the health of the nation." (22)
	Explicit mention of future generations	"In the interests of the present and future generations, the state will protect and make rational use of its land, mineral and water resources... and will take all appropriate measures to conserve and improve the environment." (23)
Haiti	Citizen responsibility clause	"Civic duties are.... To respect and protect the environment." (18)
	More elaborate legal provisions	"since the environment is the natural framework of life... any practices that might disturb... are strictly forbidden." (64)
Hungary	Explicit mention of future generations	"We commit to promoting and safeguarding our heritage... therefore we shall protect the living conditions of future generations by making prudent use of our material, intellectual and natural resources." (3)
	Citizen responsibility clause	"It shall be the obligation of the state and everyone to protect and maintain them [natural resources]" (7)
	Explicit mention of future generations	"... and to preserve them for future generations." (7)
	Right to Healthy Environment	"Hungary shall recognize and give effect to the right of everyone to a healthy environment." (15)

	Clauses enabling other legal or policy frameworks	"anyone who causes damage to the environment shall be obliged to restore it... as provided for by an Act." (15)
India	Non-binding environmental clauses	"The state shall endeavour to protect and improve the environment." (13)
	Citizen responsibility clause	"It shall be the duty of every citizen of India... to protect and improve the natural environment..." (38)
	Non-binding environmental clauses	District planning committees shall consider matters of environmental conservation and natural resources (120)
Indonesia	Right to Healthy Environment	"Every person shall have the right to Enjoy a good and healthy environment." (15)
Iran	Rights of future generations to environment	"The preservation of the environment, in which the present as well as the future generations have a right to flourishing social existence, is regarded as a public duty..." (19)
	More elaborate legal provisions	"Economic and other activities that inevitably involve pollution of the environment... are therefore forbidden." (19)
Iraq	Right to Healthy Environment	"Every individual has the right to live in safe environmental conditions" (13)
	More elaborate legal provisions	"The state shall undertake the protection and preservation of the environment." (13)
	Clauses enabling other legal or policy frameworks	Both federal and regional authorities shall.. "to formulate environmental policy to ensure the protection..." (34)
Jamaica	Right to Healthy Environment	"The rights and freedoms ... are as follows... the right to enjoy a healthy and productive environment..." (17)
Kazakhstan	Citizen responsibility clause	"Citizens of the Republic of Kazakhstan must preserve nature and protect natural resources." (10)
	Right to Healthy Environment	"The state shall set an objective to protect the environment favourable for the life and health of the person." (9)
Kenya	Explicit mention of future generations	Preamble: "...Respectful of the environment, which is our heritage, and determined to sustain it for the benefit of future generations"
	Right to Healthy Environment	"Everyone has the right to a clean and healthy environment..."
	Explicit mention of future generations	"...which includes to have the environment protected for the benefit of present and future generations..."
	Clauses enabling other legal or policy frameworks	".. Through legislative and other measures, particularly those in... article 70"
	Non-binding environmental clauses	Obligations of the state in relations to the environment (Article 69)
	More elaborate legal provisions	Elaboration of enforcement of environmental rights - individual right to legal action on right to environment (Article 70)
	Clauses enabling other legal or policy frameworks	"parliament shall enact legislation to give full effect to the provisions of this part."
Democratic People's Republic of Korea	Non-binding environmental clauses	"The state shall adopt measures to protect the environment in preference to production, preserve and promote the natural environment..." (12)

Republic of Korea	Right to Healthy Environment	"All citizens have the right to a healthy and pleasant environment."
	Citizen responsibility clause	"The state and all citizens shall endeavour to protect the environment." (9)
Kosovo	Citizen responsibility clause	"Nature and biodiversity, environment and national inheritance are everyone's responsibility." (18); opportunity to have opinions heard.
	Non-binding environmental clauses	"The impact on the environment shall be considered by public institutions in their decision making process." (18)
Kyrgyzstan	Right to Healthy Environment	"Everyone shall have the right to environment favourable for life and health" (16)
	Citizen responsibility clause	"everyone should care for the environment..."
Laos	Citizen responsibility clause	"All Organizations and citizens must protect the environment and natural resources." (6)
	Clauses enabling other legal or policy frameworks	"The government has the following rights and duties... to issue decrees on... environment" (17)
Latvia	Right to Healthy Environment	"The state shall protect the right of everyone to live in a benevolent environment..."
Lesotho	Clauses enabling other legal or policy frameworks	"Lesotho shall adopt policies designed to protect and enhance the natural and cultural environment of Lesotho for the benefit of both present and future generations and shall endeavour to assure all citizens a sound and safe environment adequate for their health and well-being" (29)
	Explicit mention of future generations	"Lesotho shall adopt policies designed to protect and enhance the natural and cultural environment of Lesotho for the benefit of both present and future generations and shall endeavour to assure all citizens a sound and safe environment adequate for their health and well-being" (29)
Lithuania	Citizen responsibility clause	"The state and each person must protect the environment..."
	Clauses enabling other legal or policy frameworks	"The state shall take care of the protection of the natural environment... and shall supervise a sustainable use of natural resources... the destruction of land [etc.]... shall be prohibited by law"
Luxembourg	Explicit mention of future generations	"The state guarantees the protection of the human and cultural environment... in particular its capacity for renewal and the satisfaction of the needs of present and future generations." (5)
Macedonia	Non-binding environmental clauses	fundamental values: "proper urban and rural planning to promote a congenial human environment, as well as ecological protection and development." (5); elaboration of where responsibility sits in Amendment XVII
	Right to Healthy Environment	"Everyone has the right to a health environment." (11); "the republic provides conditions for the exercise of the right of citizens to a healthy environment."
	Citizen responsibility clause	"Everyone is obliged to promote and protect the environment" (11)
	Non-binding environmental clauses	economy restricted for reasons of protecting the environment (13)
Madagascar	Explicit mention of future generations	"... it is important to preserve it for future generations" (it being natural resources and biodiversity) (3)
	Non-binding environmental clauses	Free enterprise within the limits of protecting the environment (10)
	Non-binding environmental clauses	Extensive explanation of where and who can make laws and regulation about the environment

Malawi	Clauses enabling other legal or policy frameworks	"The state shall activity promote the welfare and development of the people of Malawi by progressively adopting and implementing goals and legislation aimed at achieving the following goals..."
	Non-binding environmental clauses	"...To manage the environment responsibly in order to... prevent the degradation... healthy living and working environment."
	Rights of future generations to environment	"... accord full recognition to the rights of future generations by means of environmental protection and the sustainable development."
Maldives	Explicit mention of future generations	"The state has a fundamental duty to protect and preserve the natural environment.... For the benefit of present and future generations."
	Non-binding environmental clauses	"The state shall undertake and promote desirable economic and social goals through ecologically balanced development"
	Right to Healthy Environment	"Every citizen the following rights... a healthy and ecologically balanced environment."
	Non-binding environmental clauses	Responsibility for environmental work sits with local government
	Citizen responsibility clause	"... it is the responsibility of every citizen.... To preserve and protect the natural environment... and to abstain for all forms of pollution..." (18)
Mali	Non-binding environmental clauses	Preamble: "the sovereign people... undertake... the protection of the environment." (3)
	Right to Healthy Environment	"Every person shall have the right to a health environment. The protection, defence and promotion of the environment shall be obligations of the state."
Mauritania	Right to Healthy Environment	Citizens have the right "to sustainable development and to an environment balanced and respectful of health" (6)
Mexico	Right to Healthy Environment	"Any person have the right to a healthy environment for his/her own development and well-being."
	More elaborate legal provisions	"The state will guarantee the respect to such a right. Environmental damage.... Will generate a liability... provisions by the law." (9)
	Non-binding environmental clauses	Social and private sector subject to public interest of environment, sustainability, etc. (27); private property also subject to environmental balance (29), including indigenous people
Moldova	Right to Healthy Environment	"Every human being shall have the right to live in an ecologically safe and healthy environment..." (13)
	More elaborate legal provisions	"The state shall guarantee to anyone the right to free access... of truthful information related to the environmental state..." (13)
	More elaborate legal provisions	"Natural and legal entities shall be held liable for the damages caused to a person's health and property due to ecological trespasses." (13)
	Citizen responsibility clause	"The protection of environment... shall represent a duty ascribed to each citizen." (18)
	Non-binding environmental clauses	Related to the economy, the state ensures protection of the environment in this context (34)
Mongolia	Non-binding environmental clauses	Related to land management: [environment and natural resources] "shall be subject to the people's authority and under the protection of the state" (3)
	Right to Healthy Environment	"The citizens of Mongolia shall be guaranteed... the right to a healthy and safe environment.." (6)
	Citizen responsibility clause	"The citizens of Mongolia shall uphold... it is a sacred duty for every citizen... to protect the nature and environment." (6)

Montenegro	Non-binding environmental clauses	Preamble: "The conviction that the state is responsible for the preservation of nature, sound environment, sustainable development..." (7)
	Right to Healthy Environment	"Everyone shall have the right to a sound environment" (10)
	More elaborate legal provisions	Right to information, participate in decision-making, and legal protection of these rights (10)
	Citizen responsibility clause	"Everyone, the state in particular, shall be bound to preserve and improve the environment." (11)
Morocco	Right to Healthy Environment	"The state.... Work for the mobilizations of all the means available... to conditions that permit their enjoyment of the right... to a healthy environment" (11)
	Explicit mention of future generations	"It works for.... The preservation of the national natural resources and of the rights of the future generations." (12)
	Clauses enabling other legal or policy frameworks	Economic, Social Environmental council created, and powers/responsibility for further legislation on environment.
Mozambique	Citizen responsibility clause	"Every individual shall have the duty to... protect and conserve the environment." (21)
	More elaborate legal provisions	Right to popular action, in particular "the right to advocate the prevention, termination, or judicial prosecution of offences against... environmental conservation." (28)
	Right to Healthy Environment	"All citizens shall have the right to live in a balanced environment and... the duty to defend it" (30)
	Clauses enabling other legal or policy frameworks	"The state and the local authorities... shall adopt policies to protect the environment..." (30); further elaborated on in Article 117 where its linked to quality of life
Myanmar	Non-binding environmental clauses	"The Union shall protect and conserve the natural environment" (14)
	Citizen responsibility clause	"Every citizen has the duty to assist... environmental conservation" (101)
Namibia	Clauses enabling other legal or policy frameworks	"The state shall actively promote and maintain the welfare of the people by adopting policies aimed at...maintenance of ecosystems...etc." (46)
Nepal	Right to Healthy Environment	"Each person shall have the right to live in a healthy and clean environment"
	More elaborate legal provisions	"the victim of environmental pollution and degradation shall have the right to be compensated by the pollutant as provided for my law."
	Non-binding environmental clauses	"Provided that this article shall not be deemed to obstruct the making of required legal provisions to strike a balance between environment and development." (23)
	More elaborate legal provisions	Land use, development policy, water, energy, forests, transportation, tourism, financial planning, etc. include environmental protection (32)
	Explicit mention of future generations	"the state shall pursue a policy of conserving natural resources... by imbibing the norms of inter-generation judicious use of if..."
	Clauses enabling other legal or policy frameworks	"the state shall formulate policies and enact laws on the basis f the principle of sustainable development..." (34)
Netherlands	Non-binding environmental clauses	"It shall be the concern of the authorities to keep the country habitable and to protect and improve the environment" (8)

Nicaragua	Right to Healthy Environment	"Nicaraguans have the right to live in a healthy environment..." (16)
	Citizen responsibility clause	"... as well as the obligation to maintain and preserve it." (16)
	Non-binding environmental clauses	"The preservation of the environment... are the responsibility of the state." (25)
Niger	Right to Healthy Environment	"Any person has the right to a healthy environment. "
	Explicit mention of future generations	"The state has the obligation to protect the environment in the interest of present and future generations." (9); "exploitation of the natural resources... taking into account the protection of the environment... as well as the preservation of the interests of present and future generations" (35)
	Citizen responsibility clause	"Each on is required to contribute to the safeguarding... of the environment in which he lives."
	More elaborate legal provisions	National and international business must respect environmental laws (9)
Nigeria	More elaborate legal provisions	"The state shall protect and improve the environment..."
Norway	Right to Healthy Environment	"Every person has the right to an environment that is conducive to health..." (Article 112)
	Rights of future generations to environment	"Natural resources shall be managed on the basis of comprehensive long-term considerations which will safeguard this right for future generations as well."
	Clauses enabling other legal or policy frameworks	"The authorities of the state shall take measures for the implementation of these principles."
Panama	Right to Healthy Environment	"The state has the fundamental obligation to guarantee its population lives in a healthy environment." (23)
	Non-binding environmental clauses	Economic and social development should not be done at the expense of the environment (23)
	Clauses enabling other legal or policy frameworks	"Benefits gained from non-renewable natural resources shall be regulated by law..." (23)
Papua New Guinea	Explicit mention of future generations	"fourth goal to be for PNG's natural resources and environment to be conserved and used for the collective benefit of us all, and be replenished for the benefit of future generations.", further mention of future generations with relation to specific resources and development
	Citizen responsibility clause	"All persons in our country have the following basic obligations... to protect PNG and to safeguard the national wealth, resources and environment..."
	Explicit mention of future generations	"in the interests not only of the present generation but also of future generations" (5)
Paraguay	Right to Healthy Environment	"Everyone has the right to live in an healthy and ecologically balanced environment" (13)
	Non-binding environmental clauses	conservation and improvement of the environment is a priority objective (13); land reform and rural development fits within this objective (33)
	Clauses enabling other legal or policy frameworks	"The law will regulate the activities susceptible of producing environmental impact" (13); "Ecological crime will be defined and sanctioned by the law" (14)
	More elaborate legal provisions	"Any person has the right, individually or collectively, to demand from public authorities measures to defend the environment." (20)

Peru	Non-binding environmental clauses	"The state determines the national environmental policy... is obliged to promote the conservation of biological diversity and protected natural areas." (20)
Philippines	Right to Healthy Environment	"The state shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature" (5)
Poland	Non-binding environmental clauses	"The republic of Poland shall... ensure the protection of the natural environment pursuant to the principles of sustainable development"; limitations can be put on freedoms in order to protect environment
	Explicit mention of future generations	"Public authorities shall pursue policies ensuring the ecological security of current and future generations"
	Non-binding environmental clauses	"Public authorities shall pursue policies ensuring the ecological security of current and future generations"
	Non-binding environmental clauses	"protection of the environment shall be the duty of public authorities... shall support the activities of citizens to protect and improve the quality of the environment."
	Citizen responsibility clause	"Everyone shall care for the quality of the environment and shall be held responsible for causing its degradation."
Portugal	Non-binding environmental clauses	"Fundamental tasks of the state... defend nature and the environment.." (13)
	Right to Healthy Environment	"Right to health protection shall be fulfilled..." among other things by environmental conditions (31)
	Right to Healthy Environment	"Everyone shall possess the right to a healthy and ecologically balanced human living environment..."
	Citizen responsibility clause	"... and the duty to defend it." (32)
	Explicit mention of future generations	the state is responsible for... "promoting the rational use of natural resources, while safeguarding their ability to renew themselves and maintain ecological stability with respect for the principle of intergenerational solidarity." (33)
	Non-binding environmental clauses	Article 66 includes a number of other responsibilities of the state related to the environment; Article 90 relates environmental defence with economic objectives.
Qatar	Explicit mention of future generations	"The state endeavours to protect the environment and its natural balance to achieve comprehensive and sustainable development for all generations" (7)
Romania	More elaborate legal provisions	"The right to own property implies an obligation to comply with duties related to environmental protection..." (16)
	More elaborate legal provisions	(In The Economy) "The state is expected to ensure.... The restoration and protection of the environment as well as the presentation of ecological balance"
	More elaborate legal provisions	mineral resources which are of public interest, including air and water, which can be used for power production and other natural resources are public property
Russian Federation	Right to Healthy Environment	"Everyone shall have the right to a favourable environment"... and reliable information.
	Clauses enabling other legal or policy frameworks	"... and compensation for damage caused to his (her) health and property by violations of environmental laws"
	Citizen responsibility clause	"Everyone shall have a duty to preserve nature and the environment..." (13)
Sao Tome and Principe	Non-binding environmental clauses	Objectives of the state... preserve the harmonious balance of nature and the environment." (8)

	Non-binding environmental clauses	State must promote public health which includes the well-being and the socio-ecological environment in which they live.
Saudi Arabia	Non-binding environmental clauses	"The state shall seek to conserve, protect and develop the environment and prevent pollution."
	Clauses enabling other legal or policy frameworks	Resources are state owned
Senegal	Right to Healthy Environment	"The Republic of Senegal guarantees to all citizens the fundamental individual freedoms, the economic and social rights as well as collective rights..... Right to a healthy environment" (6)
Serbia	Right to Healthy Environment	"Everyone shall have the right to healthy environment" (23)
	Citizen responsibility clause	"everyone... shall be accountable for the protection of the environment.... Everyone shall be obliged to preserve and improve the environment."
	Non-binding environmental clauses	Other articles with reference: Land management, powers for further legislature
Seychelles	Non-binding environmental clauses	Preamble: "help preserve a safe, healthy and functioning environment for ourselves and posterity." (4)
	Right to Healthy Environment	"The state recognizes the right of every person to live in and enjoy a clean, healthy and ecologically balanced environment..." (18)
	Clauses enabling other legal or policy frameworks	"with a view to ensuring the effective realization of this right the state undertakes..." measures to promote, sustainable development management of resources, public awareness"
	Citizen responsibility clause	"It shall be the duty of every citizen... to protect, preserve and improve the environment."
Slovakia	Right to Healthy Environment	"Every person shall have the right to a favourable environment."
	Citizen responsibility clause	"Every person shall have a duty to protect and improve the environment... no person shall imperil or damage the environment"
	Clauses enabling other legal or policy frameworks	"The state shall be responsible for the economical use of natural resources... an effective environmental policy...details on rights and duties... shall be laid down by a law"
Slovenia	Right to Healthy Environment	"Everyone has the right in accordance with the law to a healthy living environment"
	Clauses enabling other legal or policy frameworks	"The state shall promote a healthy living environment. To this end, the conditions and manner in which economic and other activities are pursued shall be established by law. The law shall establish under which conditions and to what extent a person who has damaged the living environment is obliged to provide compensation"
	Citizen responsibility clause	"Everyone is obliged in accordance with the law to protect natural sites of societal interest..."
South Africa	Right to Healthy Environment	"Everyone has the right to an environment that is not harmful to their health or wellbeing..."
	Explicit mention of future generations	"and to have the environment protected for the benefit of present and future generations..."
	Clauses enabling other legal or policy frameworks	"through reasonable legislative and other measures that prevent pollution, promote conservation and secure ecologically sustainable development..." (9)
	Non-binding environmental clauses	Objective of local government - "to promote a safe and healthy environment" (74), and Human Rights Commission

Spain	Right to Healthy Environment	"Everyone has the right to enjoy an environment suitable for the development of the person..."
	Citizen responsibility clause	".. As well as the duty to preserve it."
	Clauses enabling other legal or policy frameworks	"The public authorities shall watch over a rational use of all natural resources..." and sanctions of legal punishments can be made, as established by the law
Sri Lanka	Non-binding environmental clauses	"The state shall protect, preserve and improve the environment for the benefit of the community."
	Citizen responsibility clause	"It is the duty of every person in Sri Lanka... to protect nature..."
Sudan	Right to Healthy Environment	"The people of Sudan shall have the right to a clean and diverse environment..."
	Citizen responsibility clause	"the state and the citizens have the duty to preserve and promote the country's biodiversity."; Article 23 repeats duties of citizen
	Clauses enabling other legal or policy frameworks	"the state shall promote, through legislation, sustainable utilization of natural resources..."; including specific reference to petroleum industry in Article 190
Swaziland	Citizen responsibility clause	"it shall be the duty of every citizen to... protect and safeguard the environment."
	Explicit mention of future generations	"In the interests of the present and future generations, the state shall protect... and shall take appropriate measures to conserve and improve the environment." (101); "Every person shall promote the protection of the environment for the present and future generations." (104)
	Non-binding environmental clauses	industry and development undertaken with respect to environment
	Clauses enabling other legal or policy frameworks	"The government shall ensure a holistic and comprehensive approach to environmental preservation and shall put in place an appropriate environmental regulatory framework."
Sweden	Explicit mention of future generations	"The public institutions shall promote sustainable development leading to a good environment for present and future generations"
Switzerland	Clauses enabling other legal or policy frameworks	"The confederation shall legislate on the protection of the populations and its natural environment."
	Non-binding environmental clauses	Agriculture, energy, travel policies all reflect protecting the environment
	Non-binding environmental clauses	"The confederation and the cantons shall endeavour to achieve a balanced and sustainable relationship between nature and its capacity to renew itself."
Tunisia	Right to Healthy Environment	"The state guarantees the right to a healthy and balanced environment and the right to participation in the protection of the climate... the state shall provide the necessary means to eradicate pollution of the environment" (9)
	Clauses enabling other legal or policy frameworks	Commission for SD and Rights of FG established, "shall be consulted on draft laws related to economic, social and environmental issues as well as development plans"
	More elaborate legal provisions	"Natural resources belong to the people of Tunisia. The state exercises sovereignty over them in the name of the people. Investment contracts related to these resources shall be presented to the competent committee in the Assembly of the Representatives of the People. The agreements concluded shall be submitted to the Assembly for approval." (5)

	Non-binding environmental clauses	"The state shall seek to achieve social justice, sustainable development and balance between regions based on development indicators and the principle of positive discrimination. The state shall seek to exploit natural resources in the most efficient way." (5)
Turkey	Right to Healthy Environment	"Everyone has the right to live in a healthy and balanced environment. It is the duty of the state and citizens to improve the natural environment, to protect the environmental health and to prevent environmental pollution"
	Non-binding environmental clauses	Section IV, particularly Article 169 involves significant description of regulations for the protection of forests.
Turkmenistan	Non-binding environmental clauses	"The state is responsible for safeguarding the nation historical and cultural heritage, natural environment, ensuring equality between social and ethnic communities" (5)
	Right to Healthy Environment	"Everyone has the right to a favourable environment. The state supervises the management of natural resources in order to protect and improve living conditions, as well as environmental protection and regeneration."
	Clauses enabling other legal or policy frameworks	Article 75 and 86 outline where specific remit for environmental protection sits within the government structures and hierarchies.
Uganda	Right to Healthy Environment	"Right to a clean and healthy environment" (7); "Every Ugandan has a right to a clean and healthy environment" (50)
	Explicit mention of future generations	"The state shall promote sustainable development and public awareness of the need to manage [resources] in a balanced and sustainable manner for the present and future generations."; "utilization of the natural resources... shall be managed in such a way as to meet the development and environmental needs of present and future generations."
	Citizen responsibility clause	duties of the citizen: "to create and protect a clean and healthy environment"
	Clauses enabling other legal or policy frameworks	"Parliament shall , by law, provide measures intended to protect and preserve.... To manage the environment for sustainable development... to promote environmental awareness." (174)
Ukraine	More elaborate legal provisions	"the land, its mineral wealth, atmosphere, water and other natural resources within the territory of Ukraine.... are objects of the right of property of the Ukrainian people" (5)
	Right to Healthy Environment	"to ensure ecological safety and to maintain the ecological balance on the territory of Ukraine... is the duty of the state" (5)
	More elaborate legal provisions	"Everyone has the right to an environment that is safe for life and health, and to compensation for damages inflicted... Everyone is guaranteed the right of access to information about the environmental situation."
	Citizen responsibility clause	"everyone is obliged not to harm nature, cultural heritage and to compensate for any damage he or she inflicted" (17)
Uruguay	Clauses enabling other legal or policy frameworks	"The protection of the environment is of general interest. Persons must abstain from any act that causes grave depredation... law shall regulate this provision..."
	Explicit mention of future generations	Reference to future generations with relation to managing water resources.
Uzbekistan	Non-binding environmental clauses	private property ownership must not be harmful to the ecological environment; natural resources shall be rationally used and protected by the state (11)
	Citizen responsibility clause	"citizens shall be obliged to protect the environment" (10)
Vanuatu	Citizen responsibility clause	"Every person has the following fundamental duties... to protect... the national wealth, resources and environment..."

	Explicit mention of future generations	"in the interests of the present generation and of future generations"
Venezuela	Citizen responsibility clause	"It is the right and duty of each generation to protect and maintain the environment for its own benefit and that of the world of the future."
	Right to Healthy Environment	"Everyone has the right, individually and collectively, to enjoy a safe, healthful and ecologically balanced life and environment" (34)
	More elaborate legal provisions	"It is the fundamental duty of the state... to ensure that the populace develops in a pollution-free environment", including climate reference.
	Clauses enabling other legal or policy frameworks	Further laws developed as articulated in 128, 129, 156, 184, etc.
Vietnam	More elaborate legal provisions	Economy, society, etc. section states that the economy will "protect the environment" (14)
	More elaborate legal provisions	"the land, water resources, mineral resources, wealth lying underground of coming from the sea and the air, other natural resources... are public properties coming under ownership by the entire people represented and uniformly managed by the state" (14)
	Clauses enabling other legal or policy frameworks	"the state has a policy to protect the environment... take initiative in prevention of natural calamities and response to climate change." (17)
	Non-binding environmental clauses	"the state encourages all acts of protection of the environment, development and use of new energy and recycled energy" (14)
	More elaborate legal provisions	"organizations and individuals who cause environmental pollution... shall be strictly dealt with and must be responsible for remedy and compensation for damage" (14)
Zambia	Citizen responsibility clause	"A citizen shall... protect and conserve the environment and utilise natural resources in a sustainable manner.. Maintain a clean and healthy environment"
	Non-binding environmental clauses	"local government shall... promote a clean, safe and healthy environment"
	More elaborate legal provisions	Article 255 elaborates on governing principles for natural resources
Zimbabwe	Right to Healthy Environment	"Every person has the right-- to an environment that is not harmful to their health of well-being..." (42)
	Explicit mention of future generations	"Every person has the right-- to have the environment protected for the benefit of present and future generations through reasonable legislative and other measures..." (42); also Article 289 (136)
	More elaborate legal provisions	"Every person has the right-- to have the environment protected for the benefit of present and future generations through reasonable legislative and other measures that: prevent pollution and ecological degradation; promote conservation; and secure ecologically sustainable development and use of natural resources while promoting economic and social development." (42)
	Clauses enabling other legal or policy frameworks	"The state must take reasonable legislative and other measures, within the limits of the resources available to it, to achieve the progressive realization of the rights set out in this section." (42)
	More elaborate legal provisions	Functions of traditional leaders: "... protect the environment" (133)
	More elaborate legal provisions	Principles guiding policy on agricultural land: "...the use of agricultural land should promote food security, good health and nutrition and generate employment, while protecting and conserving the environment for future generations." (136)

