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Article

Last Call for Sustainable Development

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Abstract: Sustainable Development was defined as part of a precautionary scheme where risk-preventive capabilities are put in action to meet the needs of the present without compromising future generations, as the Brundtland Report stated. The precautionary scheme has failed to prevent dangerous interference with the climate system. According to recent reports issued by the World Bank and UNEP, the world is on track towards an increase in global temperature of 4 degrees if current inaction continues. The magnitude of climate change consequences with a 4 degree increase in temperature will not allow neither meeting the needs of the present nor the needs of future generations. Can any development be defined as \'sustainable\' under these conditions? Is this the final call for sustainable development before giving up to \'resilience\' in the best case, and \'survival\' in the worst case scenario? These and other questions will be explored throughout this presentation to understand the fundamental importance of successful negotiations under the UNFCCC to mitigate climate change in order to establish and fulfill the Sustainable Development Goals and the Post-2015 Development Agenda.

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Keywords: Sustainable development, fragmentation, resilience, climate change negotiations, Sustainable Development Goals

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1. Introduction

The UN system has tried to coordinate international environmental governance throughout the past decades. There is a waning confidence in multilateral environmental agreements as a means to solve the environmental crises that humanity faces in the present. Stalled negotiations and inefficient binding treaties have not avoided climate change, as one of the gravest environmental issues of our time. Hence, there is an intrinsic relation between climate change mitigation and sustainable development. Climate change itself is a threat to sustainable development and sustainable development is the only option to tackle the problem.

The UNFCCC and the definition of sustainable development have been established under a precautionary scheme a priori to avoid the risk of environmental degradation, scarcity and inability to develop. However, as 20 years have passed since the creation of the Framework Convention, and the implemented measures such as the Kyoto Protocol have been utterly insufficient to 'prevent' or to "avoid dangerous interference with the climate system" a priori; as the probability of a future event, this means as a risk. However, as time passes, and mitigation in the precautionary scheme failed, the consequences of climate change will determine the ability for sustainable development.

The UN system is preparing a new agenda post 2015 using different institutional frameworks. These efforts run parallel, but the coordination between them is unclear, creating a fragmentation in the UN system architecture dealing with sustainable development.

It will be the purpose of the present article to analyze the intrinsic linkage between climate change negotiation and sustainable development in international environmental governance under the UN system, and the necessity for an integrated institutional framework to deal with both issues before the unavoidable consequences of climate change become unmanageable.

2. The Precautionary Scheme of Sustainable Development and the UNFCCC

The second half of the twentieth century saw the surge of environmental concerns and environmental consciousness. With the publishing of books like Rachel Carson's *Silent Spring* or *The limits to growth* commissioned by the Club of Rome, theoretical analysis of risk became centered on environmental issues. With this new form of processing environmental problems, posed as risks, a precautionary scheme based on scientific and technological preventive capabilities became the focus of environmental politics and institutions.

In this manner, the UN system began working on a framework to deal with the new environmental concerns. The United Nations Conference on the Human Environment [1] became instrumental on future environmental frameworks. The Stockholm Declaration was one of the first political arraignments to link human development with environmental concerns. The Declaration contains principles in the manner of recommendations and guidelines to safeguard the environment. Thus, principle 2 of the Declaration states that natural resources must be safeguarded (para. 3) [1]. Principle 6 of the declaration reads that pollution must not exceed the environment's capacity to clean itself (para. 7) [1]. And regarding development, principle 8 reads that: Development is needed to improve the environment (para. 9) [1]. Thus, the pillars of environmental protection and sustainable development were constructed.

A decade later, Sustainable Development was first defined in the Brundtland Report by the World Commission on Environment and Development [2]of 1987 as: *development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:*

- *the concept of* ***needs****, in particular the essential needs of the world's poor, to which overriding priority should be given; and*
- *the idea of* ***limitations*** *imposed by the state of technology and social organization on the environment's ability to meet present and future needs* (p. 43).

In this definition that comprises both needs and limitations, there is an implicit precautionary scheme *a priori*. This means that there is the recognition of a certain risk to avoid (e.g. the scarcity of natural resources). A precautionary scheme is established to avoid the translation of a risk to an actual danger before it occurs.

Five years after the Brundtland Report, the Rio Conference of 1992 took place having as a result the establishment of important conventions regarding different environmental concerns. Thus, the Convention on Biodiversity, the Framework Convention on Climate Change, the Convention to Combat Desertification were set forth to coordinate efforts to avoid specific environmental risks while Agenda 21 involves development and environmental issues.

Of these recent conventions created, the Framework Convention on Climate Change [3] has been one of the most important products of the Rio Conference. It also establishes a precautionary scheme. The objective of the Convention, established in Article 2 is to "avoid dangerous anthropogenic interference with the climate system"(p. 4). Thus, risk discourse can be identified on the UNFCCC under the precautionary principle with regard to mitigation of the problem. The precautionary principle is stipulated in the Framework Convention in Article 3, paragraph 3, which states that:

The Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties. (UNFCCC, 1992: 5)

Thus, the precautionary principle is vulnerable to be subject to the particular interpretation of risk by the parties, their interests and priorities. This principle goes hand in hand with risk perception. The precautionary principle could work under to avoid the danger of climate change, to take measures *a priori,* meaning *before* dangerous interference with the climate system occurs.

In this manner, the link between sustainable development and climate change mitigation is established in Article 3 par. 4 of the Convention, where it states that:

The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change (p. 5) [3]

In this manner, not only sustainable development is a risk avoidance measure to tackle climate change, but a right for all parties, particularly developing and the most vulnerable countries who are the countries that need sustainable development to be a right and not a commodity. Thus, Sustainable Development and Climate Change are closely interrelated. There even exists a causal relationship. It is because of unsustainable patterns that climate change is occurring in the present. At the same time, it is climate change what threatens the ability to achieve sustainable development given the stress on natural and social systems that will occur as a consequence of climate change. The IPCC [4] has even called a dual relationship between climate change and sustainable development:

There is a dual relationship between sustainable development and climate change. On the one hand, climate change influences key natural and human living conditions and thereby also the basis for social and economic development, while on the other hand, society's priorities on sustainable development influence both the GHG emissions that are causing climate change and the vulnerability (para. 1).

3. The climate situation *a posteriori*

Twenty years after signing the FCCC, the paradigm under which it operates based on prevention and mitigation *a priori* is turning obsolete.

Prevention of loss and damage in the manner of mitigation as a way to avoid dangerous climate change by reducing GHE gases, and adaptation as anticipating damage by taking a proactive approach do not apply any longer Climate change is no longer a risk, but a threat, with impending consequences that can no longer be avoided or with consequences that are already being experienced.

As climate change has already increased global temperatures by 0.8 degrees, mitigation will no longer be used on the basis of the precaution scheme, but as harm minimization, *a posteriori,* as a countermeasure to avoid the worst consequences of climate change and prevent the temperature continues climbing towards catastrophic consequences. All this in the best case scenario, meaning if the countries of the world manage to stay on track towards a 2 degree scenario instead of a 4 degree scenario.

Thus, there is an evolution from a preventive scheme *a priori* to negotiations *a posteriori* when climate change is no longer a risk but a reality. This can be seen in the Durban Platform for Enhanced Action [5] which states in its preamble that:

Recognizing that climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires to be urgently addressed by all Parties, and acknowledging that the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions (p. 1),

Furthermore, it states that:

Noting with grave concern the significant gap between the aggregate effect of Parties. mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with having a likely chance of holding the increase in global average temperature below 2 °C or 1.5 °C above pre-industrial levels,(p. 1) [5]

The UNFCCC still runs on a precautionary scheme. It will have to establish a contingency scheme now that climate change has not been mitigated or prevented, and now it has to deal with its consequences, recognizing the evolution from a risk to an impending or unavoidable danger.

To mitigate climate change will require at least the top 15 polluting countries in the world (including China, U.S., Russia, Canada, the European Union, Mexico and Brazil). Russia, Japan and Canada have rejected a second commitment period of the Kyoto Protocol, which makes it largely insufficient. After 20 years of negotiations, the situation remains real and mitigation in the best case, there will be a new binding instrument until 2020 if the Durban Platform is successful. There is a huge gap between emissions and pledges by the Parties to the UNFCCC. Unless the Kyoto Protocol can be either dramatically increased in scope or replaced by a new, more comprehensive agreement, global emissions will continue to rise as China and other major developing countries industrialize. Thus, the emissions of greenhouse gases rise precipitously, and climate change worsens.

Furthermore, the more positive outlook in 2015 is that an agreement is reached and implemented in 2020, means at least 8 years before the mitigation begins, which means eight more years of rising gas emissions Greenhouse and acute consequences of climate change, so we have an increasingly complex situation to which adapt and a small window to act before exceeding the safety net of 2 degrees as a recent report by UNEP [6] states.

> Summing up, the analysis of least cost scenarios shows that a gap exists between the pledges and robust paths towards limiting global warming to below 2°C. Emissions are still on the rise and the available cumulative emission budget consistent with 2°C is being used up fast. The median cumulative emission budget from 2000 to 2050 in the pathways which are consistent with 2°C with a likely (>66%) probability is around 1890 GtCO2e. Between 2000 and 2010, 24% of this budget was used, and in the past three years at least 8% more was used, leaving only around two-thirds (about 1250 GtCO2e) for the years up to 2050. (…)the range of 2020 emission levels implied by current pledges is most consistent with pathways limiting global temperature increase (with a "likely" (>66%) chance) to 3 to 5°C above pre-industrial levels during the 21st century (p. 29).

The Fifth Assessment Report of the IPCC (AR5) [7], which was just released by the end of September 2013, also considers a " carbon budget " from the calculation of GHG emissions required to keep the world below 2 degrees Celsius, specifically not exceed 1,000 gigatons of carbon. What is most important is that this situation has already been "spent "over half the budget. For 2011 and had issued 531 giga tones of carbon (p. 20).

The reserve of emissions is scanty if it is to maintain the limit of 2 degrees. How can the principle of common but differentiated function as a right to issue the relevant part of ' budget ' remaining carbon? Negotiations to decide this situation have a high potential to be a conflict between the parties from the requirement of sustainable economic development right, the PRCPD and the polluter-pays principle established in the UNFCCC:

To ensure the budget is not exceeded, governments and businesses may have to leave valuable fossil fuel reserves unexploited. This raises key questions of how to allocate the remaining "carbon budget" fairly among countries, an issue that some climate negotiators fear could wreck the UN climate talks, which are supposed to culminate in a global agreement on emissions in 2015. (para.14-15) [8]

How would the right to sustainable development established in Art. 3 par. 4 be considered within this carbon budget and the safety net of 2 degrees?

Furthermore, the economic cost of delay in mitigation will increase as climate change advances. At the World Economic Forum in 2013, the Green Growth Action Alliance presented the Green Investment Report [9], in which it explores the costs of lowering emissions and to make the transition to a green economy:

> The investment required for the water, agriculture, telecoms, power, transport, buildings, industrial and forestry sectors, according to current growth projections, stands at about US$ 5 trillion per year to 2020. Such business-as-usual investment will not deliver stable growth and prosperity. New kinds of investments are needed that also achieve sustainability goals. Beyond the known infrastructure investment barriers and constraints, the challenge will be to enable an unprecedented shift in long-term investment from conventional to green alternatives to avoid locking in less efficient, emissions-intensive technologies for decades to come. (…)There are additional, incremental investment needs of at least US$ 0.7 trillion per year to meet the climate-change challenge. This investment is needed for clean energy infrastructure, low-carbon transport, energy efficiency and forestry to limit the global average temperature increase to 2°C above pre-industrial levels. (p. 6-7)

More time of delay is equal to a more expensive transition to sustainable development. This transition is being conducted as business as usual and this will not meet the requirements to lower emissions to mitigate climate change. Plus this is not considering any conflict potentialities and its costs. In this manner we turn to adaptation.

Adaptation, just as mitigation and sustainable development, was first conceived as taking *a priori* measures to minimize possible effects of climate change. However, as it has been established, with unavoidable consequences, the precautionary scheme for adaptation falls short of a structured plan for the consequences that are not in the future but happening in the present.

Adaptation and mitigation go hand in hand and must not be conceived as the former being a substitute of the latter. Particularly as the precautionary scheme failed, and the consequences of climate change increase, these two strategies are not interchangeable but complementary:

> The need for adaptation is clear. Measurements of observed changes in climate over recent years support the growing body of research projecting future changes in climate. The world is already committed to around 1.5°C of warming as the result of previous greenhouse gas emissions, and the prospects of rapid and radical global emissions reductions are low. Adaptation will therefore be crucial. Yet mitigation is also essential. Emissions continue to rise, and the UNFCCC mitigation pledges so far correspond roughly to a +3°C pathway. There is growing concern that current trends will lead to +4°C or beyond. Without more serious, urgent mitigation, there is a serious risk of extreme or catastrophic climate change. Once certain tipping points in the climate system have been crossed, the damages and costs may be too great to overcome through adaptation. (p.1) [10]

However, society in its different levels has not begun the necessary process of adaptation and all the relevant factors that it implies. Time is very important to adapt societal structures, governance systems, political systems, etc. In this scenario, sustainable development transforms into adaptation when looking to meet the needs of the present. However, with increasing consequences of climate change, the timing of adaptation comes into question:

The timing of adaptation is also highly uncertain and may not keep step with changes in climate. Adaptation can be proactive, but it often is reactive; for example, extreme events are important triggers for taking adaptation actions. The more rapid the change in climate, the less effective reactive adaptation is likely to be. And early examples suggest that maladaptation is likely – adaptive decisions that inadvertently worsen vulnerability and limit future adaptation options. (p. 3) [10]

In this manner, as the emission gap and mitigation actions continue to fail, we could also begin to ask for the extent to which societies not only should adapt, but if it is even possible to adapt to a 4 degree world as the World Bank [11] states:

With pressures increasing as warming progresses toward 4°C and combining with nonclimate–related social, economic, and population stresses, the risk of crossing critical social system thresholds will grow. At such thresholds existing institutions that would have supported adaptation actions would likely become much less effective or even collapse. One example is a risk that sea-level rise in atoll countries exceeds the capabilities of controlled, adaptive migration, resulting in the need for complete abandonment of an island or region. Similarly, stresses on human health, such as heat waves, malnutrition, and decreasing quality of drinking water due to seawater intrusion, have the potential to overburden health-care systems to a point where adaptation is no longer possible, and dislocation is forced. *Thus, given that uncertainty remains about the full nature and scale of impacts, there is also no certainty that adaptation to a 4°C world is possible*. (p. XVIII)

Returning to the Brundtland Report definition of sustainable development, in the near future it becomes impossible to meet the needs of the present without jeopardizing the resources for future generations unless mitigation of climate change starts immediately. It becomes a condition *sine qua non* for sustainable development. As we have seen with the reports of UNEP and the World Bank, adaptation to a world with a 4 degree rise in global temperature is impossible. Thus, climate change conditions the very existence and concept of sustainable development, and at the same time, sustainable development is the only option to mitigate climate change. However, the window of opportunity to implement sustainable development in a global scale is closing. In this manner, the fate of climate change negotiations under the UNFCCC and sustainable development is closely linked.

In this manner, we can see that the window for curving climate change is small and closing. Sustainable development becomes the most important element to achieve mitigation.

The consequences of climate change can be reflected in the large variety of levels of society and political institutions affected by all the different physical consequences of climate change that exceed the political capacities of the UNFCCC and of international environmental law leading to a problem that becomes problematic in terms of overlapping and fragmentation of agency.

4. Overlapping of UN Institutional Frameworks

The Durban Platform for Enhanced Action under the UNFCCC is set to finish in COP 21 in 2015. By this time, a new treaty should be agreed to curve climate change to be implement the treaty by 2020. At the same time, the Millennium Development Goals are due in 2015 and will be substituted by the Sustainable Development Goals. A third track involves the post-2015 agenda. The timeframes of different institutional frameworks overlap. These tracks strive to achieve sustainable development. However, these are three parallel and distinct processes.

As a follow up from the United Nations Conference on Environment and Development of 1992 and the World Summit on Sustainable Development, the UN General Assembly organized the Conference on Sustainable Development, also known as Rio + 20 in June of 2012.

The main result of the Conference is the document *The Future we want* [12] that reaffirms Agenda 21, set 20 years before and stating the need to develop the Sustainable Development Goals (SDG) as a set of targets the world can follow and measure to substitute the Millennium Development Goals (MDG) which will end in 2015.

It was decided to create the Open Working Group of the General Assembly on January of 2013. The Working Group had the mandate to prepare proposals on SDG. Based on resolution 67/203 of the General Assembly, the Working Group must present its report to the UNGA at its sixty-eighth session (September 2013- 2014). There have been four meetings of the Working Group to date dealing with the following subjects: conceptualizing the sustainable development goals, Poverty eradication, Food security and nutrition, sustainable agriculture, desertification, land, degradation and drought; Water and sanitation, Employment and decent work for all, social protection, youth, education and culture and Health and population dynamics(p. 3-4) [13]. Four more sessions are going to be organized to end in February of 2014 at the end of the Eighth session.

On the third track and parallel from the SDG, the GA established a UN System Task Team on the Post-2015 UN Development Agenda that presented a report in June of 2012 entitled *Realizing the Future we want for all* outlining the vision post-2015 [14].

Furthermore, as a consequence of the 2010 MDG Summit, in July of 2012, Ban-Ki Moon announced the creation of a High-level Panel to advice on the global development framework beyond 2015 named *High Level Panel on the Post-2015 Agenda*. The Panel delivered a report in May, 2013 entitled *A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development* in which the Panel recommends Five Transformative Shifts to end poverty and attain sustainable development including: "Leave no one Behind, Put Sustainable Development Goals at the Core, Transform Economies for Jobs and inclusive Growth, Build Peace and Effective, Open and Accountable Public Institutions and last, To forge a new Global Partnership. To achieve these transformative shifts, the Panel recommends these illustrative goals: End Poverty, Empower girls and women and achieve gender equality, Provide quality education and lifelong learning and to Ensure Healthy Lives.[15]

Other work streams following the post-2015 process are: the Sustainable Development Solutions Network to support problem solving in critical areas of sustainable development, the UN Global Pact to work with contributions of businesses and private sector, and four Assistant Secretaries-General to coordinate between the different work streams. (para. 15-16) [16]

Another important result of the Rio +20 Conference was the decision of the General Assembly to strengthen and to upgrade UNEP. In this manner, the decision allows full participation of all 193 members of the UN at the Governing Council of UNEP. Prior to this, the Governing Council consisted of 58 members only. Furthermore, UNEP has a new task as secretariat of a 10 year framework of programmes on sustainable consumption and production patterns (10YFP) to enhance cooperation toward sustainable consumption patterns (para. 2-6, 16) [17].

Hence, there are three parallel tracks: the Durban Platform for Enhanced Action under the UNFCCC, the SDG, and the Post-2015 development agenda. There is a very broad array of processes

dealing with international environmental governance. How are they coordinated? How to avoid overlapping in institutional frameworks?

> There is deep concern that each of the processes – the post-2015 development agenda and the SDGs – will be diluted if the tracks are pursued in parallel (…). The Rio+20 outcome document clearly states that the SDG process "needs to be coordinated and coherent with the processes to consider the post-2015 development agenda" (UN 2012b). The High-Level Panel has been asked by the UN secretary-general to work with the intergovernmental Open Working Group on the SDGs to ensure that the processes are mutually reinforcing and to advise him on how the SDGs relate to the broader post-2015 development agenda (UN 2012c). How the two processes will connect and coordinate is still unclear but it is highly likely that there will just be *one* set of global development goals agreed on for the post-2015 era. (p. 17-18) [18]

There are multiple parallel routes dealing with the same issue: How to implement sustainable development throughout the world. Thus, frameworks are overlapping without coordination between them running parallel while the entire success of sustainable development under the UN system depends on the success of climate change mitigation, thus making the FCCC instrumental in its implementation and a *sine qua non* condition for its very existence. In *The Future we want* of Rio +20 it states that:

> We acknowledge that climate change is a cross-cutting and persistent crisis, and express our concern that the scale and gravity of the negative impacts of climate change affect all countries and undermine the ability of all countries, in particular, developing countries, to achieve sustainable development and the Millennium Development Goals, and threaten the viability and survival of nations. Therefore, we underscore that combating climate change requires urgent and ambitious action, in accordance with the principles and provisions of the United Nations Framework Convention on Climate Change (p.6). [12]

However, for the Post-2015 Development Framework there is no consensus on what issues should be prioritized. Kate Higgins [18] summarizes a range of official documents that were products of various official processes dealing with the Post-2015 Agenda that established their priorities. It is noteworthy that while 6 reports enlist Sustainable Development as a priority issue for the Post-2015 Agenda, only 3 reports enlisted climate change as a priority. (p. 22)

Meanwhile, greater coordination between the UNFCCC, the MDG, their substitute, the SDG and the priority of climate change has already being proposed at the FCCC. Bolivia, on behalf of the LMDC, declared in its submission to the UNFCCC [19] the following:

> (…) the impacts of climate change are an obstacle for achieving sustainable development and poverty eradication and for enabling economic development to proceed in a sustainable manner. As stated in the IPCC 4th Assessment Report, "an assortment of climate-related vulnerabilities will seriously impede progress in achieving the mid-century goals [MDGs]"1. The vulnerability of countries to the impacts of climate change challenges and the losses related to these impacts make the achievement of Millennium Development Goals, such targets 1, 2 and 7. The increased scale and frequency of extreme events and potentially catastrophic slow-onset events could jeopardize achieving the Millennium Development Goals. (…) While there are opportunities for achieving sustainable development objectives and adaptation benefits, these opportunities cannot be overestimated. Without appropriate and adequate support in accordance with Article 4.4 and 4.8 of the Convention, the cost of adaptation detracts from other development priorities. In this regard, as

stated in the Rio+20 Declaration, we emphasize that adaptation to climate change represents an immediate and urgent global priority (p. 1).

Hence, we can see the importance of successful negotiations under the UNFCCC. There is a fragmented process in agency with the same goal in mind. If international environmental governance is fragmented under the UN, how could it be possible to coordinate efforts aiming at the same goal without the risk of overlapping and duplication of institutional frameworks?

If the UNFCCC process fails, there will be little time to implement some sort of system of governance that can, in first place, mitigate climate change before overcoming the safety net of 2 degrees, and secondly, that can ensure justice and the right to sustainable development for the most vulnerable. As we have seen, the World Bank and the IPCC have indicated previously, to arrive at such global conditions will jeopardize even the ability of countries to adapt to climate change. The UNFCCC is probably the best chance for the least developed and most vulnerable countries to ensure that a global fund to support their adaptation, deal with the loss and damage caused by climate change and to guarantee the right to sustainable development. Hence, there is a fragmentation of agency in the UN system when dealing with sustainability.

5. Fragmentation of parallel UN processes

Fragmentation is defined by Biermann *et al.* [20] as:

> any policy domains are instead marked by a patchwork of international institutions that are different in their character (organizations, regimes, and implicit norms), their constituencies (public and private), their spatial scope (from bilateral to global), and their subject matter (from specific policy fields to universal concerns). These situations we understand as *fragmented* global governance architectures (p. 16).

Because this analysis is directed towards the institutional frameworks inside the UN system, the governance architecture is well established although it is fragmented in its institutional frameworks which are loosely connected in terms of global environmental governance, as we have seen. However, this level of fragmentation could be considered as a cooperative fragmentation, given that in the UN system there is a core institution with a functional architecture. According to Biermann et al Cooperative fragmentation is

> "when there are only loosely integrated institutions and decision-making procedures, when the relationship between the norms and principles of these different institutions is ambiguous, and/or when not all major countries participate in the core institution". (p. 20) [20]

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Cooperative Fragmentation can be observed with the following example. Christiana Figueres [21], head of the UNFCCC secretariat recently declared:

> We will not be participating in the negotiations and the statement that comes out of Rio+20 is not a part of our negotiations," said Figueres. "They are complimentary but they are parallel (…) "It is what do we as humans aspire to [sustainable development]. Part and parcel of that is the advancement of the climate convention because there is no sustainable development possible without addressing climate change and vice versa.

> Fortunately all the measures we put in place to address climate change have a positive effect on sustainable development, so that's a good reinforcement but procedurally they are very different processes," (para. 7-10)

With this, Figueres establishes that the Rio +20 process regarding the SDG and the post-2015 agenda are 'very different processes'. However, given the intrinsic link between climate change and sustainable development, what is the coordination between them? As we have seen previously, the Rio+20 declared the fundamental relation between climate change and the SDG. However these processes are only loosely integrated if not completely separated. It seems that the only coordination is the fact that climate change needs to be mitigated as a condition *sine qua non* for sustainable development to happen, as climate change has a wide spectrum of trans-sectorial consequences that could jeopardize the ability of countries to develop. Thus, climate change should be the fundamental priority in the UN institutional framework.

Ban Ki Moon [22] called upon a special climate summit in September, 2014 where he hints exactly the purpose of the summit which is the need for a greater coordination between the three frameworks to tighten its connections and to take advantage of its overlapping timeframes:

> For more than a decade, the end of the year 2015 has been our long horizon.What once seemed a distant moment is now just around the corner. 2015 is the year by which we have pledged to achieve the Millennium Development Goals. It is the year in which we will adopt a new development agenda. And it is the year in which you have agreed to complete a global agreement on climate change. 2015 is a historic opportunity (para. 30-33).

Indeed it would be a historic opportunity to coordinate and repair the existing fragmentation of agency inside the UN system in its efforts towards a sustainable future. The Climate Summit of 2014 must address and resolve this situation.

It is also possible to question the necessity of an integrated and coherent architecture. Fragmentation could also imply diversity of agency. An ongoing debate among theorists exists between fragmented and integrated architectures:

Several plans for a future climate governance architecture have been put forward that explicitly assert the value of fragmentation—often referred to as "diversity"—or at least implicitly accept it. Others, however, remain supportive of a more integrated overall architecture. And yet, political science lacks a conceptual framework for the comparative study of different types and degrees of fragmentation of global governance architectures.

We may accept the diversity of institutional frameworks. However, we must not lose sight that climate change is now unavoidable and the window of opportunity to tackle it before the worst consequences become unmanageable. It is because of this fundamental reason that an integrated overall architecture dealing with climate change and sustainable development must be established in the UN system. A coordinated effort stands better chances of success than a fragmented architecture to deal with climate change.

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6. An Epilogue for Sustainable Development

What could be considered sustainable development if temperatures continue to rise and the consequences of climate change become not only unavoidable, but unmanageable? Sustainable development could evolve from a precautionary scheme to avoid the risk of scarcity, to a harm-minimization mechanism a posteriori.

If we stick to the definition of sustainable development of the Brundtland Report, could it justify the use of geo-engineering, for example? Perhaps geo-engineering could be justified to mitigate climate change so development can continue in order to meet the needs of the present without compromising the ability of future generations to meet their own needs?

In this manner, there are two options available for sustainable development in case the unavoidable becomes unmanageable: one is that the kind of development possible in a 3-4 degree world that might be even be called 'resilient development' or even 'survival'. The second option is to call geo-engineering and other extreme measures of state of exception possibilities sustainable development warrants.

7. Conclusions

As we have analyzed, sustainable development was conceived as a precautionary measure a priori. This means the avoidance of a risk before it becomes impossible or increasingly complex to meet the needs of the present given the unavoidable consequences of climate change.

The carbon budget that the IPCC provides as a safety net to stay below a 2 degree increase in global temperatures is directly linked to development, and sustainable development is the only option to stay inside the safety net. Thus, sustainable development is the only option for the present situation.

It is because of this that the UN system must place its focus on resolving the climate change stalled negotiations and lack of ambition. The UNFCCC is surpassed by the vast and complex array of consequences that climate change will bring to social systems. The Rio+20 Conference acknowledges the importance of climate change, but the two different pathways towards a sustainable future are not coordinated between them, and even less with the UNFCCC. Thus, there is a fragmentation of agency in the UN system, at the time when coordination is most needed.

There are timetables that match and that can be coordinated because they have already been agreed. The Durban Platform is set to conclude in 2015. The Millennium Development Goals are also set to end in 2015. There is an ongoing and very large effort with the two agendas post-2015. However, these two paths are not taking into account that if climate negotiations fail in 2015, there will not be a treaty to mitigate climate change, taking the world out of already endangered safety net of an increase of 2 degrees. In this scenario, sustainable development possible is not even possible. The strategies are fragmented where they most need to be coordinated. Furthermore, the FCCC will be surpassed by the increasingly complex agenda. Greater coordination within the UN system is fundamental. Sustainable development and climate change mitigation must be considered operative, coordinated synonyms.

If climate change mitigation fails, there is no sustainable development possible. It might be called resilient development, but it cannot be called sustainable because it would be a contradiction with its definition by failing to meet the needs of the present without compromising the needs of future generations. The window of opportunity will close. This is, indeed, the last call for sustainable development.

References and Notes

1. United Nations Conference on the Human Environment. Declaration of the United Nations Conference on the Human Environment. Available online: http://www.unep.org/Documents.Multilingual/Default.asp?documentid=97&articleid=1503 (Accessed on September 4th, 2013)
2. World Commission on Environment and Development. *Our common future*. Oxford University Press: Oxford, England, 1987.
3. United Nations Framework Convention on Climate Change. United Nations Framework Convention on Climate Change, 1992; pp. 2-5. Available online:
4. Intergovernmental Panel on Climate Change. Contribution of Working Group III to the 4th Assessment Report. Ed. Pachauri, Rajendra. 2007. Available online: http://www.ipcc.ch/publications_and_data/ar4/wg3/en/ch2s2-1-3.html (Accessed on October, 1st, 2013)
5. United Nations Framework Convention on Climate Change. Durban Platform for Enhanced Action. 2011. http://unfccc.int/files/meetings/durban_nov_2011/decisions/application/pdf/cop17_durbanplatform.pdf (Accessed on October 2nd, 2013)
6. United Nations Environmental Programme. *Emissions Gap Report 2012.* Available online: http://www.unep.org/publications/ebooks/emissionsgapreport/ (Accessed on October, 1st, 2013) p. 29
7. Intergovernmental Panel on Climate Change. Contribution of Working Group I to the 5th Assessment Report. 2013. *Summary for Policy Makers.* Ed. Pachauri, Rajendra p. 20 Available online: http://www.climatechange2013.org/images/uploads/WGIAR5-SPM_Approved27Sep2013.pdf (Accessed on October 9th, 2013)
8. Harvey, Fiona. *IPCC: 30 years to climate calamity if we carry on blowing the carbon budget* The Guardian. September, 27th, 2013. Available onine: http://www.theguardian.com/environment/2013/sep/27/ipcc-world-dangerous-climate-change (Accessed on October 10th, 2013)
9. World Economic Forum. Green Investment Report 2012. Executive Report. 2012. (p. 6-7) Available online: http://www3.weforum.org/docs/WEF_GreenInvestmentReport_ExecutiveSummary_2012.pdf (Accessed on October 10th, 2013)
10. Stockholm Environmental Institute. Can '1°C of climate change adaptation' replace '1°C of mitigation'? Why economic models can't solve policy dilemmas. 2012 (p. 1-3). Available online: http://www.sei-international.org/mediamanager/documents/Publications/Climate/sei-pb-2012-adaptation-mitigation.pdf (Accessed on October 11th, 2013)
11. World Bank. *Turn Down the Heat: Why a 4°C Warmer World. Must be Avoided.* (p. XVIII). Available online:

http://climatechange.worldbank.org/sites/default/files/Turn_Down_the_heat_Why_a_4_degree_centrigrade_warmer_world_must_be_avoided.pdf (Accessed on October, 10th, 2013)

12. United Nations Conference on Sustainable Development. The future we want. 2012 (p. 6-46) Available online: http://www.uncsd2012.org/thefuturewewant.html (Accessed on October 10th, 2013)
13. United Nations General Assembly, *Letter dated 19 July 2013 from the Co-Chairs of the Open Working Group of the General Assembly on Sustainable Development Goals addressed to the President of the General Assembly*. 2013 (Pages 3-4). Available online: http://www.un.org/ga/search/view_doc.asp?symbol=A/67/941&Lang=E (Accessed on October 10th, 2013)
14. Development Policy and Analysis Division. *Report of the UN System Task Team on the Post-2015 Development Agenda. 2013. Available online: http://www.un.org/en/development/desa/policy/untaskteam_undf/report.shtml* (Accessed on October 10th, 2013)
15. High-Level Panel on the Post-2015 Agenda. *A New Global Partnership: Eradicate Poverty and Transform Economies through Sustainable Development.* 2013. Available online: http://report.post2015hlp.org/ (Accessed on October 11th, 2013)
16. United Nations Sustinable Development Platform. Post-2015 Process. 2013. Available online: http://sustainabledevelopment.un.org/index.php?menu=1561 (Accessed on October 11th, 2013)
17. United Nations Environmental Programme. *United Nations Environment Programme Upgraded to Universal Membership Following Rio+20 Summit* 2013. Available online: http://www.unep.org/newscentre/Default.aspx?DocumentID=2700&ArticleID=9363&l=en#sthash.q2VhVyOM.dpuf (Accessed on October 11th, 2013)
18. Higgins, Kate. Reflecting on the MDGs and Making Sense of the Post-2015 Development Agenda. North-South Institute. May, 2013. (pp.17-22). Available online: http://www.nsi-ins.ca/wp-content/uploads/2013/05/2013-Post-2015.pdf (Accessed on October, 11th, 2013)
19. United Nations Framework Convention on Climate Change. Submission of Bolivia on behalf of the LMDC. Submission on the costs, benefits and opportunities for adaptation based on different drivers of climate change impacts, including the relationship between adaptation and mitigation. September 13th, 2013. (p. 1) Available online: http://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/adp_lmdc_workstream_2_20130913..pdf (Accesed on October 11th, 2013)
20. Biermann, F; Pattberg, P; van Asselt, H; Zelli, F. The fragmentation of global governance architectures: a framework for analysis. *Global Environmental Politics*, 2009, 9:4, (14-40), DOI:10.1162/glep.2009.9.4.14. Available online: http://www.glogov.org/images/doc/9.4.biermann.pdf (accessed on 30 November 2012).
21. Parnell, J. UNFCCC chief: Rio+20 and climate change talks have common goals. *Responding to Climate Change* Available online: http://www.rtcc.org/2012/05/23/unfccc-chief-rio20-and-climate-change-talks-have-common-goals/#sthash.OBe8eJLR.dpuf (Accessed on October 11th, 2013)
22. Moon, Ban-Ki. *Secretary-General's address to the General Assembly [as delivered – bilingual; scroll down for all-English version]*Available online: http://www.un.org/sg/statements/index.asp?nid=7119 (Accessed on October, 12th, 2013)

Conflict of Interest

The author declares no conflict of interest.