Climate Change as a Transformation Challenge

A New Climate Policy Paradigm?

The Paris Agreement *marks a milestone in international climate policy. Though, the positive appraisal was not unanimous. This article will argue that the* Paris Agreement *embraces a new paradigm. Climate change is no longer seen as a clear-cut environmental problem, nor as a developmental issue, but as a challenge to fundamentally transform global societies. While criticism through the lens of the former paradigms is worthwhile, the* Paris Agreement *should be acknowledged as a pacemaker for the transformation processes that lay ahead of us.*

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GAIA 25/1 (2016): 19–22 | **Keywords:** climate change, paradigm shift, Paris Agreement, transformation, UNFCCC

Climate change is a collective action problem. Such problems are characterised by a shared perception of some facts in the world and can only be resolved if the global community engages in collective cooperative effort. Over time, the perception of the climate change problem has shifted significantly. The scope of the problem definition gradually increased from a rather narrowly defined environmental problem, to expand to include the developmental perspective, and ultimately to a fundamental transformation of global societies (see figure 1, p. 21).

Concepts of Climate Change

Climate Change as an Environmental Problem

Originally, climate change was widely seen as a clear-cut environmental problem. Hence, the policies proposed under the *United Nations Framework Convention on Climate Change (UNFCCC)* were drawn from the well-established toolbox of environmental policy-making, including information instruments (e.g., greenhouse gas inventories), planning (mandatory mitigation programmes and national communications), cooperation through capacity-building and technology transfer, and later market-based instruments like *Emissions Trading* and the *Clean Development Mechanism*. The *Kyoto Protocol* marks a culmination point of this paradigm: an economically efficient solution to tackle the clear-cut task of mitigating an environmental pollutant.

Climate Change as a Development Issue

Climate change, however, has implications that transcend the environmental realm. It has been argued that focusing on emissions misses the point as climate change essentially is a development issue. Without recognition of this, international efforts are doomed to fail (Moomaw and Papa 2012). Negotiations before Copenhagen strongly focused on emissions reduction targets. This would have effectively transformed "the hitherto freely available sink capacity of the atmosphere into a managed resource" (Hermwille et al. 2015, p. 6). Since historically economic development has been associated closely with greenhouse gas emissions, a cap on emissions has been perceived by many developing countries as an unacceptable cap on development.

Climate Change as a Transformation Challenge

In recent years, a third paradigm has emerged. This paradigm frames climate change in even wider terms and conceptualises it even more broadly as a social, political, and cultural challenge. As O'Brien and Selboe (2015, p. 13) put it: "Climate change is a challenging idea because many societies have traditionally treated climate as an external condition (...). The climate is now no longer a given background for human activities but instead has become a collectively produced (although variable) and deeply sociopolitical phenomenon".

This broader paradigm originated in the scientific domain, particularly with the notion of the "Anthropocene", the idea that the world has entered into a new geological era where human activity has become a determining geological force (Crutzen 2006). Later, Rockström et al. (2009) developed the concept of "planetary boundaries", within which safe human development was possi- >

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http://dx.doi.org/10.14512/gaia.25.1.6

ble. They also showed that anthropogenic emissions have already breached that boundary. Similarly, in the social sciences the concept of "Earth System Governance" has emerged, "a new perspective that takes the entire Earth system as an object of political efforts" (Heinrichs and Biermann 2016, p. 134).

Only since fairly recently have these calls for a universal transformation started to resonate with the political mainstream. Perhaps the most prominent example of this is the acknowledgement of the need for decarbonisation of the global economy by leaders of the G7 in their 2015 declaration. Furthermore, the dimension of values and beliefs has become an integral part of the climate change debate. The papal encyclical *Laudato Si'* (Pope Francis 2015) and similar messages from leaders of all major religions demonstrate this impressively. A new paradigm has taken hold, shifting expectations of the future to one without fossil fuels.

Transformation: Cooperation or Catastrophe

Climate change will unquestionably transform global societies. The question is whether this transformation is the result of a moderated, cooperative, and reflexive endeavour from the global community, or whether this change occurs through chaos and catastrophe as a result of unmitigated climate change.

The impacts of climate change are well understood (IPCC 2014). They include dramatically altered precipitation and temperature patterns, severe impacts on water and food security, changes in the probability and intensity of extreme weather events, and significant sea level rise. These impacts will inevitably exert stress on the structures that bind our societies.

One high-profile example may provide an indication of what unabated climate change may entail. Kelley et al. (2015) argue that the severe drought that hit the Fertile Crescent between 2007 and 2010 contributed to the initial social conflicts and ultimately the outbreak of war and the rise of the "Islamic State". The drought led to a collapse of agricultural productivity in north-eastern Syria, resulting in an unprecedented surge of food prices. It displaced an estimated 1.5 million people, most of which migrated into urban peripheries within the country. These sprawling peri-urban areas with poor infrastructure, high unemployment and raging crime later became the hot spots of unrest in the country (Kelley et al. 2015). While it is probably impossible to establish that climate change has caused the Syrian catastrophe, it is fairly certain that it contributed to fuel the "pressure cooker of radicalism and conflict" (Sellers 2016).

But what is the alternative to this dire outlook? Unfortunately, a comprehensive vision of a truly sustainable and zero-carbon society does not exist. Sustainability science can tell us a lot about how the components of such a society could look. The challenge is to put the pieces of the puzzle together into one functional whole. The transformation requires envisioning and enacting sustainability simultaneously.

For this transformation, international governance is required to develop, engrain, and legitimise normative concepts of how to address environmental concerns concurrently with wider social and economic challenges. International governance is required to ensure the participation of all relevant stakeholders; in the case of climate change it is critical that those who are most vulnerable to climate change remain part of the negotiations. And international governance is required to ensure reflexivity because the required transformation will necessarily lead to a change in collective as well as individual value and assessment schemes over time.

Does the *Paris Agreement* Deliver?

What is necessary for effective international governance in the paradigm of climate change as a transformation challenge? Six elements are essential in this regard: 1. an arena in which stakeholders can engage in a spirit of trust and cooperation, 2. a shared transformational vision, not necessarily in terms of a clear picture but at least as a common sense of direction, 3. a process with a shared agenda and schedule, 4. sufficient resources for implementation, 5. transparency to provide the required information to further build trust and to allow for reflexivity, and 6. a mode to deal with undesired effects of the transformation. The subsequent analysis will demonstrate that all of these functions are more or less present in the *Paris Agreement*. The assessment is based on the Wuppertal Institute's more extensive analysis of the *21st Conference of the Parties (COP21)* and the *Paris Agreement* (Obergassel et al. 2016).

The Return of Environmental Multilateralism

After the diplomatic disaster of Copenhagen, confidence in the multilateral negotiation process had declined dramatically. As the French *COP* President Laurent Fabius stated in his speech before the final draft was tabled: "(I)f, today, we were so misfortunate as to fail, how could we rebuild hope? Confidence in the very ability of the concert of nations to make progress on climate issues would be forever shaken" (France Diplomatie 2015).

Three elements were key to avoid the breakdown of environmental multilateralism. First, the diligent preparation and outstanding leadership provided by the French *COP* Presidency and the *UNFCCC* Secretariat. Second, the emergence of the "high ambition coalition" of Small Island States, Least Developed Countries and the European Union, which ultimately even included countries like Japan, Brazil, and the USA. This coalition helped to push the outcome towards the upper end of what seemed politically possible. And third, Parties were able to reach an agreement which envisages climate action by all nations. This bridges the deep schism between developed and developing countries within the *UNFCCC*. The success of the Paris conference restored some of the confidence that had been lost over the last decade.

Normative Vision: The Long-term Goal

The *Agreement's* ambition of limiting global warming to "well below 2 °C and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels recognising that this would

significantly reduce the risks and impacts of climate change" (UNFCCC 2016, *Paris Agreement,* Art. 2) represents a quantitative increase compared to the previous wording and a re-interpretation of the *Convention's* ultimate purpose. The *Convention's* objective is to avoid dangerous climate change. The long-term goal of the *Paris Agreement* can only be understood one way: any global warming is dangerous.

Moreover, countries agreed that the temperature limit is to be reached by achieving "a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century" (UNFCCC 2016, *Paris Agreement,* Art. 4.1). Other formulations would probably have worked better as a norm to guide the behaviour of actors. For example, a goal of full decarbonisation would have provided a much less ambiguous mandate. However, from a climate science point of view, the actual formulation is even more inclusive, as it also encompasses other greenhouse gases than CO_2 and particularly the land-use sector. The message from Paris is unequivocal: the age of fossil fuels is over!

A Pacemaker for Climate Policy

The *Paris Agreement* imposes legal obligations on signatories to formulate and communicate climate policy objectives, the so-called *Nationally Determined Contributions (NDCs)*. However, it does not obligate them to achieve those contributions. The *Paris Agreement* aims to compensate this lack of legal compulsion by creating a reputational risk through the establishment of mandatory transparency framework and review provisions. Starting in 2018, these "stocktakes" will create moments of concentrated political attention every five years that may be used to foster the dynamic of the process. Moreover, Parties agreed that "successive nationally determined contribution will represent a progression beyond the Part(ies') then current nationally determined contribution" (UNFCCC 2016, *Paris Agreement,* Art. 4.3), ensuring that the policy cycles induced by the *Agreement* resemble a ratchet mechanism. Reneging on earlier pledges is prevented.

Furthermore, the *Paris Agreement* has no termination date. This prospect should promote a long-term outlook for the development of national policies and investment decisions in line with long-term goals.

FIGURE 1: At the Paris climate conference in December 2015 (here a view of the Eiffel Tower replica within the venue), civil society was appealing to the negotiators to confront the challenges ahead, which are not only environmental or developmental issues, but fundamental transformational problems.

© IISD/Kiara Worth (www.iisd.ca/climate/cop21/enb/10dec.html)

Climate Finance

The finance section of the *Paris Agreement* is weak. It does not contain any compulsion to scale up climate finance. Only the accompanying decision text reiterates that the goal of mobilising an annual 100 billion US Dollar of North-South financial flows in 2020 and beyond, promised already in Copenhagen, is still valid. Moreover, Parties agreed to set a new, collective financing target by 2025. In this context, the 100 billion US Dollar figure is now considered the floor of financial contributions – rather than the ceiling as before Paris.

Transparency

The *Paris Agreement* establishes, for the first time, a universal transparency system. While previously there had been separate reporting and review systems for industrialised and developing countries, now there will be only one system. This will substantially increase the transparency requirements for mitigation actions by developing countries. At the same time, the new system meets the demands of developing countries by also including adaptation and requiring developed countries to increase transparency on their provision of support. The details of the transparency framework will be part of the fine print to the *Paris Agreement* to be drafted in the coming years.

Dealing with the Downsides: Loss and Damage, and Adaptation

One reason the *Paris Agreement* won the support of developing countries was its recognition of two decade-long demands: first, it elevates the standing of adaptation in the international climate regime. Crucially, action on adaptation is to be reviewed and accelerated every five years in parallel to the contribution cycles for mitigation.

Second, the *Paris Agreement* recognises that there are adverse climate impacts that cannot be adapted to, but can only be dealt with. This was a crunch issue until the very end, as developed countries feared that the inclusion of the concept of *Loss and Damage* in the agreement could be used to justify compen- >

sation and liability claims. The final outcome acknowledges both positions. The *Paris Agreement* features a separate article on loss and damage, while the decision text contains a clause that excludes compensation and liability claims.

Dawn of a New Climate Policy Paradigm?

The *Paris Agreement* can and should be criticised. Clearly, the *Paris Agreement* does not resolve climate change as an environmental problem. Critics have voiced concerns over increasing inconsistency between the collective goals and pledges (and actions even more so) from individual countries (Geden 2015). The emissions reductions pledged by countries under the *Paris Agreement* are widely out of line with its global target. Assuming these pledges are implemented, the global mean temperature would most likely still increase in the range of 2.7 °C to 3.5 °C, and the actual achievement of contributions is not a legally binding obligation. Yet it is remarkable that this shortfall of ambition has been explicitly highlighted in the decisions accompanying the *Agreement* (UNFCCC 2016, para. 17).

Just as the *Paris Agreement* does not resolve climate change as an environmental problem, nor does it resolve climate change as a developmental issue. The *Agreement* avoided any formal operationalisation of historical responsibilities and development needs by simply leaving the level of ambition up to the Parties; the contributions are determined nationally according to the respective national circumstances. Sunita Narain even has posited that the lack of legal obligations by developed countries and the failure to operationalise climate equity will "end up furthering climate apartheid" (DownToEarth 2015).

These criticisms are valid, but they treat climate change as a separate and distinct environmental and development issue respectively. If one accepts that climate change is a transformation challenge, then the *Paris Agreement* is a significant step in the right direction. All of the six elements outlined above are reflected in the *Paris Agreement* and only on the issue of climate finance the results are poor. The question is whether these results can provide a basis for international governance of the great transformation? Is it inclusive enough to overcome the current confrontational style of climate policy and establish a sense of cooperation? Will it help to establish a common understanding that this transformation needs political guidance? And ultimately, will it help global leaders to take the right decisions to make utopia possible?

While it is too early for a definitive answer to these questions, I am hopeful that the *Paris Agreement* is a solid basis from which to set a process in motion which may allow for true cooperation. The *Paris Agreement* provides the starting point of this process, not the end. It does not provide a precise itinerary like a satnav would do, but instead provides a common sense of direction like a compass. We are not immune to taking the wrong turn on the transformation pathway, but the *Paris Agreement* allows for the reflexivity to avoid costly detours and impasses on the pathways to sustainability.

The analysis of the *Paris Agreement* draws heavily on discussions with colleagues at the Wuppertal Institute for Climate, Environment and Energy. The text contains contributions from *Wolfgang Obergassel, Christof Arens, Nicolas Kreibich, Florian Mersmann, Hermann E. Ott,* and *Hanna Wang-Helmreich*.

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