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Enabling factors for cooperation in the climate negotiations: a comparative analysis of Copenhagen 2009 and Paris 2015

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Discussion Paper 14/2018

Enabling Factors for Cooperation in the Climate Negotiations

A Comparative Analysis of Copenhagen 2009 and Paris 2015

Maximilian Högl

Enabling factors for cooperation in the climate negotiations – a comparative analysis of Copenhagen 2009 and Paris 2015

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Bonn, May 2018 Maximilian Högl

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Abbreviations

ADP	Ad Hoc Working Group on the Durban Platform for Enhanced Action
AILAC	Independent Alliance of Latin America and the Caribbean
ALBA	Bolivarian Alliance for the Peoples of Our America
AOSIS	Alliance of Small Island States
AWG-KP	Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol
AWG-LCA	Ad Hoc Working Group on Long-term Cooperative Action under the Convention
BASIC	Brazil, South Africa, China, India
CBDR	common but differentiated responsibilities
COP	Conference of the Parties
COP 15	15th Session of the Conference of the Parties to the United Nations Framework Convention on Climate Change
COP 21	21st Session of the Conference of the Parties United Nations Framework Convention on Climate Change
ENB	Earth Negotiations Bulletin
EU	European Union
G77/China	Group of 77 and China
INDC	intended nationally determined contribution
LDC	least-developed country
LMDC	like-minded developing country
NDC	nationally determined contribution
SIDS	small island developing states
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change

Executive summary

The issue of how human beings interact in the face of common-pool resource problems and public-good dilemmas has been examined in a vast body of research of various disciplines, from behavioural economics to social psychology. Although the "homo oeconomicus" paradigm, which conceptualises human behaviour as rational utility maximisation, predicts that no cooperation would occur in these scenarios, the overall result of this research proves the opposite: Humans do frequently cooperate, and the extent of cooperation depends on certain factors. These so-called enabling factors for cooperation are surprisingly consistent across various disciplines: Communication, trust, reputation, fairness, enforcement, we-identity and reciprocity drive cooperation. However, can these insights be transferred to the multi-dimensional, complex discipline of international relations? So far, the research has only dealt with individuals interacting. When group sizes increase, it becomes more difficult to sustain cooperation. Moreover, what if not only individuals but also nation states interact?

Climate change constitutes a global-scale, common-pool resource problem. Although burning fossil fuels as a cheap driver of economic development is in the interest of individual nation states, the ultimate outcome of the utility maximisation of each state would be the destruction of the common-pool resource – the climate. Climate negotiations therefore constitute a great playing ground to examine the transferability of the theory of enabling factors for cooperation to the level of international relations.

This paper undertakes a first attempt at this. The guiding question is whether the enabling factors of cooperation play a role in climate negotiations, and if so, in which way? To answer the research question, two high-level climate summits are compared: COP 15, which took place in Copenhagen in 2009, and COP 21, which was held in Paris in 2015. As COP 15 was not successful in carving out an encompassing agreement and COP 21 was, a juxtaposition of both rounds of negotiations helps in examining the differences. Against this background, the more specific research question is: Is it plausible to argue that the failure of COP 15 and the respective success of COP 21 can be explained by a change in the provision of enabling factors for cooperation?

Climate negotiations are an intersection of inter-institutional and interpersonal dynamics: On the one hand, negotiators represent the countries or civil society organisations that they are accountable to; on the other hand, they interact as individuals as well. To give credit to this intersectional character, a methodological approach that takes the personal as well as the national level into account is applied: Interviews with seven official country delegates representing the European Union, least-developed countries, the Alliance of Small Island States and an African country are conducted as a first step, and the reports of the Earth Negotiations Bulletin (ENB) are analysed as a second step. For the ENB reports, a coding system that distinguishes between cooperative and conflictive behaviour is applied for the negotiation rounds of COP 15 and COP 21. Based on this new data set, it is possible to trace back which country cooperated with which other country on which occasion and the levels of reciprocation between two countries.

Both methodological steps complement each other: The analysis of the ENB reports reveals the frequency of positive reciprocal relations between developed and developing countries, whereas the interviews give a deeper understanding of the causality behind the observations.

The main finding of this paper is that although climate negotiations are a multi-dimensional, complex phenomenon shaped by many exogenous factors, such as the commitment of heads of state towards green policy or the cost of climate-friendly technologies, a climate agreement in Paris would not have been possible without a change in the enabling factors for cooperation. The major changes between COP 15 and COP 21 took place in the realms of communication and trust, enforcement and fairness, reputation and reciprocity.

As each round of climate negotiations is facilitated by a presidency – whose task is to organise the negotiations, stimulate dialogue, create common ground and, finally, propose an agreement – the performance of the presidency is crucial for the factors of communication and trust. During COP 15, a lack of trust in the presidency ensued, as secret bilateral negotiations sidelining the process of the United Nations Framework Convention on Climate Change were revealed and the negotiations were perceived as being non-transparent and exclusive. In contrast, the French presidency during COP 21 built trust by launching an unprecedented round of climate diplomacy in the run-up, cultivating a manner of listening to all parties equally and communicating transparently.

A second observation is the interconnection of the level of enforcement and fairness debates. An envisaged "global deal" with legally binding emission-reduction obligations resulted in distributional conflicts and a deep political division between developed and developing countries during COP 15. This was resolved for COP 21 when the envisaged level of enforcement was lowered. The allowance for self-differentiation based on "nationally determined contributions" sidelined impeding fairness debates and enhanced participation.

Reputation as a factor for cooperation did not play a role during the Copenhagen conference, as developed and developing countries shifted the blame mutually. However, it became a factor during the Paris conference as this division crumbled, meaning that ambitious countries could address non-cooperative countries' reputational concerns in order to encourage their cooperation.

The reciprocal relations between developed and developing countries were exclusively negative during COP 15. Reciprocity was therefore not a driver of cooperation; instead, it reinforced the divisions. This changed for COP 21. As several positive reciprocal relations between developed and developing countries emerged, reciprocity had the effect of deepening and maintaining cooperation.

Besides these major findings, this paper provides evidence for the role of informal communication and personal relations at the negotiations. Therefore, it also offers some interesting insights into the behind-the-scenes dynamics that are not captured in official reports.

1 Introduction

A look at the state of the world in the year 2017 would lead to rather pessimistic conclusions about global cooperation. The failure of the international community to resolve pressing problems – for example, the inability of the United Nations (UN) to find an effective response in the Syrian war, the disunity of the European Union (EU) in its attempt to manage the refugee crisis, the questioning of territorial integrity in Eastern Europe or the disintegration of the EU through Brexit – indicates a disruption of some of the parameters of international relations that were long taken for granted. The rise of nationalist movements across the Western world and the election of a US president who pursues an anti-liberal agenda, objects to immigration and free trade, questions the existing international security architecture and uses hostile rhetoric towards China, thereby increasing the risk of an economic – or even military – confrontation between those two superpowers are further striking examples of an "era of the collapse of world order" (Wolfgang Ischinger, cited in Messner & Weinlich, 2016, p. 4).

The openly nationalistic and "our nation first" policy approach of the new US administration seems to confirm the prognoses of international relations scholars such as Ian Bremmer (2012) and John Mearsheimer (2014), who foresee a future in which every nation looks out for itself and is characterised by geopolitical conflict and rivalry.

However, the fact that the prospects for global cooperation have decreased in the wake of recent world political events does not mean that it has become obsolete. On the contrary, global challenges such as the maintenance of financial market stability, the prevention of pandemics and the management of trans-border refugee flows exceed the capacity of individual nation states and make cooperation beyond national borders indispensable. The most pressing of those issues, which are commonly discussed under the label of "global public goods" (Kaul, Grunberg, & Stern, 1999), is anthropogenic climate change, because it threatens the foundations of humanity's living conditions in an unprecedented way.[1]

Given the deadlock on other issues, the global community has made surprisingly substantial progress in its attempt to tackle this problem. Since the founding of the United Nations Framework Convention on Climate Change (UNFCCC), quarrels between developed and developing countries over the historic responsibility for climate change and questions over which countries should take up how many greenhouse gas mitigation obligations have dominated climate negotiations. A first attempt to reach an agreement that includes all countries was made in the Copenhagen conference in 2009, but it failed to deliver a generally accepted result.

The Paris conference in 2015, in contrast, led to a tangible outcome. For the first time, the UNFCCC's 197 parties agreed to pursue "efforts to limit the temperature increase to 1.5°C above pre-industrial levels" (UNFCCC, 2015, Art. 2). When the United States announced

1 Climate change has, among other things, been called "the greatest threat to human rights" (Mary Robinson, cited in World Future Council, 2016), the "biggest global health threat of the 21st century" (Wang & Horton, 2015) and listed as the biggest potential threat to the global economy in 2016 (World Economic Forum, 2016).

its withdraw from the agreement – although its actual manifestation has yet to be seen – it marked an historic breakthrough in the evolution of the climate regime.[2]

The Paris conference and the climate negotiations in general are a fascinating case of global negotiations and cooperation. Climate change is a "super wicked problem" (Levin, Cashore, Bernstein, & Auld, 2012) that is characterised by

> diffuse, multiple and global-scale causes and responsibilities; long time-scales; the centrality of greenhouse gas emissions to modern notions of prosperity, and with that the (perceived) economic costs of mitigation; inherent scientific uncertainty; complex ethical and moral dimensions; and the scale and speed of transformative change required. (Depledge, 2017, pp. 274-275)

While the climate is changing at a rate exceeding most scientific forecasts in the last years (NASA, 2016) and has started to reveal its disastrous potential, especially in the Global South, mainstream science projects uncontrollable consequences above a threshold of 2°C of warming – compared to pre-industrial levels – when certain "tipping points" (such as the melting of the Siberian permafrost or the disruption of monsoon systems) are reached. Against that background, climate negotiations require "superman diplomacy" (Depledge, 2017, p. 277), as nothing less than saving the long-term viability of human civilisation is at stake.

Given the urgency and scale of the required climate action, cooperation in climate negotiations deserves closer academic scrutiny.[3] However, the mainstream proponents in international relations theory are having difficulties in explaining how cooperation among nations actually emerges in the face of problems concerning collective action. The dominant paradigm of international relations theory is still neorealism. With its emphasis on the lack of an ordering principle or a supreme authority in the international system, the subsequent importance of national interests and the inevitability of security dilemmas, neorealism paints a grim portrait for international cooperation. On the other hand, a growing amount of research in disciplines such as experimental and evolutionary psychology, anthropology and behavioural science highlights the ability of human beings to cooperate.

Climate change constitutes a large-scale and complex common-pool resource problem.[4] Although using fossil energy as a cheap driver of economic development is in the interest

2 The fact that heads of state worldwide condemned President Trump's decision and many countries, including China, are in support of the agreement indicates that it enjoys broad legitimacy among the world community as a whole (Sengupta, Eddy, Buckley, & Rubin, 2017).

3 Furthermore, climate negotiations are a microcosm of international relations, in which global power structures and changes are reflected. According to Terhalle and Depledge (2013, p. 572), "great power politics" between China and the United States, and difficulties in integrating those countries into global governance structures, accounted for the deadlock that had persisted in climate negotiations for a long time. Therefore, an inquiry on the nature of successful climate diplomacy might also hold implications for global governance challenges resulting from "tectonic power shifts" from Western to Asian countries on a general level (Messner, 2011, p. 33).

4 Climate has been referred to in academia at times as a "global public good" (e.g. Kaul et al., 1999) as well as a "global common pool resource" (e.g. Ostrom et al., 2002). Public goods are characterised by two features: non-excludability, that is, no one can be barred from consuming the good, and nonrivalry in consumption, that is, it can be consumed by many without becoming depleted (Kaul et al., 1999, p. 3). In contrast, there is competition for common-pool resources for the purposes of consumption. As greenhouse gas emissions affect the provision of a stable climate, the argumentation according to which climate constitutes a common-pool resource should be followed here. For further discussion, see Section 2.1.

of nation states, the emission of carbon dioxide has already changed the climate in noticeable ways and will most likely have catastrophic consequences if no action is taken (IPCC [Intergovernmental Panel on Climate Change], 2013; WBGU [Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen], 2007).

A comprehensive body of experimental research as well as empirical observations of local and regional common resources (for a review, see Poteete, Janssen, & Ostrom, 2010) suggest that humans are able to solve these kinds of problems when certain favourable conditions are given. Drawing on the various literature of cooperation research, Messner, Guarín and Haun (2013) carve out the seven basic factors (the "Cooperation Hexagon") that determine whether and how cooperation takes place: reciprocity, trust, communication, reputation, fairness, enforcement and we-identity. Reciprocity forms the centre of the concept, as it has been the main component of cooperation throughout human evolution (Nowak & Highfield, 2011; Nowak & Sigmund, 2005) and one of the essential principles taught in all societies (Ostrom, 2005).

Although cooperation in the face of a common resource dilemma within a small group of people is relatively easy, since personal relationships and face-to-face communication help to establish trustful relations, it is much more difficult to achieve cooperation in large and heterogeneous scenarios. As the payoff structure varies, it becomes more difficult to organise and agree on rules as well as enforce them. Free-riding becomes much easier in such a setting. Ostrom, Burger, Field, Norgaard and Policansky call this the "scaling-up problem" (1999, p. 4).

However, Messner et al. (2013, p. 23) argue that "the mechanisms of the cooperation hexagon have scale-free properties that allow them to function in societies of increasing size". However, further research has to be done in order to understand how cooperation scales up from interpersonal relations to more complex forms. It is assumed that cooperation in large and heterogeneous settings will still be successful if the enabling factors are prevalent.

Against this background, the following research question should be addressed here: *Did the enabling factors for cooperation play a role in the climate negotiations, and if so, in which way?* In this context, it also should be asked: How applicable are the insights of behavioural science for the case of climate negotiations; and what are the differences in how enabling factors work at the individual level compared to how they work in the climate negotiations?

There had been two high-level summits that aimed to reach an encompassing and substantial climate agreement: the Copenhagen conference in 2009 (COP 15), which failed in this regard, and the Paris conference in 2015 (COP 21),[5] which succeeded. Against this background, the more specific research question is: *Is it plausible to argue that the failure of COP 15 and the respective success of COP 21 can be explained by a change in the provision of enabling factors for cooperation?*

5 The full names are: The 15th Session of the Conference of the Parties (COP 15) to the United Nations Framework Convention on Climate Change, and the 21st Session of the Conference of the Parties (COP 21) to the UNFCCC. COPs under the UNFCCC have been held annually since 1995 in various host countries. The host country normally makes up the COP presidency, which should facilitate the process. The specific role of the COP presidency is discussed in detail in Sections 4.1.1 and 4.2.1.

Some of the factors of the Cooperation Hexagon have been examined more than others in the literature on climate negotiations. Fairness (or equity[6]) has been the object of a comprehensive amount of studies, for example Ringius, Torvanger and Underdal (2002), Ashton and Wang (2003), Pauw, Bauer, Richerzhagen, Brandi and Schmole (2014), and Raman and Ling (2016). Another well-explored theme is the enforcement mechanism of the climate regime, for example by Hare, Stockwell, Flachsland and Oberthür (2010), Keohane and Victor (2011), Falkner (2016) and Keohane and Oppenheimer (2016).

Evidence in the literature for exploring the other factors is much sparser. Useful background information on communication and trust-building during the Danish presidency of COP 15 is provided by Meilstrup (2010). Likewise, the Norwegian climate negotiator Brun (2016) offers insights on trust-building and negotiation strategies during COP 21. Depledge's (2017) article on climate diplomacy provides further valuable insights on how the Paris Agreement was negotiated.

However, less attention has been dedicated to reciprocity. The only systematic approach is from Castro and Kammerer (2016). Based on a comprehensive dataset that distinguishes between the cooperative and conflictive behaviour of countries in the negotiations, as recorded by the Earth Negotiations Bulletin (ENB), they use network statistics to single out factors that promote cooperation. Reciprocity is one of their dependent variables, and they find that it increases the likelihood of cooperative events.

For the factors reputation and we-identity, no explicit studies have been found. Therefore, the research question cannot be sufficiently answered based on secondary literature.

Climate negotiations can be conceptualised as a mixture of interpersonal and inter-institutional dynamics: On the one hand, negotiators represent the (presumed or real) interests of the countries or civil societies for which they are accountable, whereas, on the other hand, they interact as individuals as well. Therefore, the "micro-situational context" (Poteete et al., 2010, p. 228) becomes important here, for example the question of whether negotiators know or trust each other (Messner et al., 2013, p. 26).

To answer the research question and gain knowledge about these behind-the-scenes dynamics as well, semi-structured expert interviews with country delegates who participated in one or both of the climate negotiations were conducted. As climate negotiations are characterised by a North–South division, representatives from developed as well as developing countries were interviewed – two from developed countries, and four who were part of a developing-country delegation. One climate policy expert was interviewed in addition. The overall rationale was to reconstruct, understand and explain the full complexity of cooperation in climate negotiations through qualitative primary data and anecdotal evidence.

Face-to-face interviews were decided upon because they allowed for addressing open questions more easily. An interview guideline was prepared consisting of an opening question plus more specific theory-driven questions. The ordering and content of the questions were approached in a flexible way, in accordance with Flick's (2014, pp. 156-161) understanding of a semi-standardised interview.

6 Definitions will be given in Section 2.3.5.

For the evaluation of the interviews, a category system that was deduced from the theory was applied. It consisted of the seven enabling factors for cooperation, plus one category for informal communication and personal relations and one category for other factors.[7] The results were complemented and put into context by reports of the negotiation process in secondary literature and newspaper articles. The interviews provided empirical evidence on the factors of trust, communication, reputation, fairness, enforcement and reciprocity, and the following analysis therefore focusses on these factors.

We-identity has been difficult to measure, given the methodology applied. The reason why interviewees did not respond to this factor might be that self-identification with a group is a rather elusive, individual and private process that, at times, happens subconsciously as well, and measuring we-identity on the national level is difficult.

Although reciprocity is the central factor in the Cooperation Hexagon, the evidence for it from the interviews remained vague and abstract (even though interviewees confirmed that it is an importance factor). To compensate for this, a second methodological step was taken. This consists of a continuation of Castro and Kammerer's approach (2016). Castro and Kammerer developed an elaborated method to analyse cooperation in the climate negotiations: Based on the reports of the ENBs, which are the most comprehensive, systematic and consistent accounts of those parts of the climate negotiations that are open to observers, they coded every speaking act of one country towards another, thereby distinguishing between cooperative ("speaking on behalf of, supporting, speaking with or agreeing with one another") and conflictive ("delaying, opposing or criticising others' positions or statements") (Castro & Kammerer, 2016, p. 1) behaviour and noting the topic of the statement.

This scheme is applied to analyse the reports of the Copenhagen as well as the Paris conferences. Later on, it can be traced back as to which country cooperated with which on what occasion, and the levels of reciprocation can be examined. It is expected that more incidents of positive reciprocity between developing and developed countries occurred during COP 21 than during COP 15.

There are different limitations to both methods: Not every interviewee was involved at every level of negotiation, and interviewees might also not have been willing to talk about very informal or secret processes. The limitations of the ENB analysis stem mainly from insecurity about the interpretation, the fact that they do not cover the informal part of the negotiations and the diplomatic language that these reports reflect.

However, a combination of the qualitative method (expert interviews) with another qualitative approach that has a quantitative dimension (ENB reports) serves the rationale that both approaches will complement each other: The quantitative dimension can reveal the frequency of positive reciprocal relations between developed and developing countries, whereas the interviews can give a deeper understanding of the causality behind the

7 As the theory of enabling factors for cooperation rests largely upon empirical evidence from the observation of individuals' behaviour in laboratory experiments, the same means of measurement could not be applied to the context of climate negotiations. Therefore, new parameters for the operationalisation of the factors were defined. Those served as a guiding reference for the category system. More details to the questions, the parameters and the evaluation can be found in Section 3.

observations. It is important to note that providing a full causal explanation for the failure or respective success of the climate summits has not been attempted.

International climate policy is a multi-level, multifactorial and highly complex process that bars one-dimensional causality. Exogenous factors – such as the personal commitments of heads of state towards green policy at the time of negotiating, the fluctuating economic costs and opportunities of climate-friendly technologies, the severity of climate change impacts already being felt and the deeper geopolitical dynamics that shape international relations – have without doubt a tremendous effect on the success of negotiations. However, the Paris conference could still have failed due to "the complexities and challenges inherent to climate diplomacy", despite a number of favourable external conditions, as Depledge argues (2017, p. 282). Consequently, while taking external factors into account, the following analysis primarily concentrates on the internal dynamics of the negotiation process itself.

It starts by outlining characteristics that allow climate policy to be framed as a social dilemma on a large and complex scale. After this, it is examined how human behaviour differs from anticipated behaviour – according to rational-choice theories – that humans would display facing such situations, and which factors foster cooperation. Subsequently, the question of whether these insights can be applied to the international level should be raised, and first theoretical findings should be outlined.

After clarifying the methodological approach, an analysis and comparison of COP 15 and COP 21, in accordance with the theory of enabling factors for cooperation, take up the empirical part.

2 The enabling factors for cooperation

2.1 Climate policy as a social dilemma

In a situation in which several herdsman have access to a commonly used pasture, the rational utility maximisation of each herdsman leads to the overgrazing – and ultimately to the destruction – of the commonly used resource. The underlying logic is that each herdsman will enjoy the profit of the sale of an additional animal individually, whereas the costs for the additional grazing of the common resource will be shared by all. Thus, it is rational for the individual herdsman to add more animals to his herd, but as all herdsmen have this incentive, the ensuing result is overgrazing and the ultimate destruction of the land parcel. This is the archetypal scenario of the "tragedy of the commons", as it was first sketched by William Forster Lloyd in 1833, and it gained broad academic attention with Garett Hardin's famous article (1968).

Common-pool resource problems are a central concept in environmental studies; examples are oceanic ecosystems from which fish are harvested, or forests from which trees are harvested. Common-pool resources can be sustained when all users constrain themselves. However, a social dilemma arises: If somebody restricts their use but others do not, the resource will still be destroyed, meaning that the individual exerting constraint is economically disadvantaged compared to those who continue unconstrained behaviour (Dietz, Dolsak, Ostrom, & Stern, 2002, p. 3). Consequently, collective action and cooperation are required to overcome these problems.

Conceptually, a common-pool resource is defined as a "valued natural or human-made resource or facility that is available to more than one person and subject to degradation as a result of overuse" (Dietz et al., 2002, p. 18). Common-pool resources are non-excludable, that is, the exclusion of somebody from the use of the resource is costly or impossible, and rival in consumption, which means that one person's use reduces what is available to others.

Besides the incentive for overuse is the free-rider problem, which is a second incentive problem in the face of common-pool resources. The free-rider problem arises because it is difficult to keep someone from using the resource, regardless of whether they contributed to the costs of maintaining it. When someone uses a resource without contributing to its preservation, they are called a free rider (Dietz et al., 2002, p. 19).

Another type of extractable resource is the sink-type common-pool resource. When the common-pool resource is a sink, the problem of overuse puts "too much of a contaminant into the resource as contrasted with the more familiar problem of taking too much out" (Dietz et al., 2002, p. 19).

Climate change resembles a sink-type common-pool resource problem on a global scale. Although using fossil energy as a cheap driver of economic development is in the interest of individual nation states, the emission of carbon dioxide into the atmosphere causes global warming and threatens the sustainability of the common-pool resource, in this case a stable climate. As each additional pollutant worsens the impact of climate change – with science being capable of estimating the "global carbon budget"[8] total that remains for humanity to emit before running into catastrophic climate change – the rivalry in consumption that pertains to carbon dioxide consumption becomes tangible. Given that catastrophic climate change ought to be avoided, the emission of a certain amount of carbon dioxide by one country subtracts from the possibility of other countries to use this amount of fossil fuel.

Similarly, the social dilemma character of the problem applies for climate change: If one country restricts its carbon emissions individually and the other countries do not, catastrophic climate change will not be avoided, all while the restricting country has lost the short-term benefits of emitting carbon dioxide as a cheap driver of economic development. Given that the transformation of an economy from being based on fossil fuels to sustainable energy sources instead requires investment – and given that renewable energy technologies are more costly than fossil fuels (which they mostly were at the time of negotiating for most

8 For example in Messner, Schellnhuber, Rahmstorf and Klingenfeld (2010), or see also: http://www.globalcarbonproject.org

countries[9]) – the collective action problems with climate change are similar to those of other common-pool resource problems, except for major differences in scale and complexity. Consequently, it can be argued that empirical observations of human behaviour in the face of common-pool resource problems can be applied to behaviour when dealing with climate change as well.

Besides framing a stable climate as a common-pool resource (Dietz et al., 2002; Depledge, 2017, p. 275), it is frequently referred to as a "global public good" (Barrett, 2007; Kaul et al., 1999; Kaul, Conceicao, Le Goulven, & Mendoza, 2003). Public goods share with common-pool resources the characteristic of non-excludability, but they are in contrast non-rival with regards to consumption. The use of a public good by one individual does not detract from the good's utility for other persons. In fact, most global public goods are impure, that is, they possess mixed benefits. Examples of pure global public goods are international peace, knowledge, health and living in a just society. Whereas common-pool resources face the incentive problem of overuse, public goods have a supply problem. As the attitude towards consumption is non-rival and non-excludable, a rational actor has the incentive to avoid contributing personal resources towards providing public goods, that is, to free-ride (Kaul et al., 1999, p. 6).

Climate change policy can also be framed as a public-good dilemma, namely when it is thought of as an investment problem. According to this, the changeover to sustainable energy sources is economically costly for nation states, and the goal of preserving the global good of a stable climate can only be reached when all countries collectively invest in that transformation. Even though there is a rivalry in the consumption of climate similar to the consumption of other common-pool resources, climate shares this characteristic with public-good problems as well, and the underlying incentive problems are similar. That is why experimental and field research on both types of social dilemmas are taken into account in the ensuing theoretical part.

In contrast to other public goods, climate change mitigation requires an aggregate effort and depends on the combined efforts of all states. As every country's contribution to the overall effort could be a substitute for every other country's efforts – and if one group of countries

9 The US Energy Information Administration (EIA, 2015) estimated the levelised cost of electricity (a "convenient summary measure of the overall competiveness of different generating technologies" (EIA, 2015, p. 1)) in 2015 for conventional coal at 95.1, natural gas at 75.2, compared to which geothermal (47.8), on-shore wind (73.6) and hydroelectric (83.5) are competitive, but solar photovoltaic (125.3), offshore wind (196.9) and solar thermal (239.7) are not (EIA, 2015, p. 6).
The real prices for countries differ, however, depending on their geographical circumstances. At the end of 2016, solar and wind power became cheaper or had the same price as fossil fuel in 30 countries – among them Chile, Mexico, Brazil and Australia. It is assumed that this trend will continue and hold true for most countries in the next couple of years (World Economic Forum, 2017, p. 5). Due to this change, the problems of collective action in the face of climate change are decreasing, and it is possible that they will completely disappear.
The decreasing prices for renewable energies – solar modules, for example, were 80 per cent cheaper in 2016 compared to 2009 (World Economic Forum, 2017, p. 5) – meaning that the collective action problems during the time of negotiating were more severe during the Copenhagen conference than during the Paris conference. However, because fossil fuels were still cheaper in most countries in 2015 – and due to path dependencies and the fact that a transition to a low-carbon economy requires investment in the first place – problems of collective action were still present in Paris (which is an important precondition for the comparability of both cases; see also Section 3.1).

takes on more responsibility – other countries might have no incentives to step up their efforts. The free-rider problem is especially strong in such a setting (Barrett, 2007, p. 101).

Additionally, climate change constitutes a "super wicked problem" (Levin et al., 2012) that is characterised by "diffuse, multiple and global-scale causes and responsibilities", and therefore "complex moral and ethical dimensions" (Depledge, 2017, p. 275). There is also a lack of time to take action, in contrast to the long time-scales of the Earth's system, coupled with the short time-horizons of policy-makers. This complexity adds to the general difficulties in achieving successful cooperation in the face of common-pool resource problems and makes cooperation in climate negotiations even harder. However, although the rational-choice theories regarding human behaviour would predict that cooperation is not possible – which means that common-pool resources will inevitably be overused, and public goods will not be provided – a comprehensive amount of research highlights the human capacity and tendency to cooperate in such situations. This body of research should be turned to now.

2.2 Human behaviour in contrast to rational-choice theories

A "social dilemma" is a situation in which individuals make choices in interdependent circumstances that would lead to a payoff at an equilibrium outcome that is of less value than an available alternative (Ostrom, 2005, p. 19). Transferred to a climate change context, this means that countries use fossil fuels as a cheap driver of their economic development, but as a result of these individually motivated actions, they destroy the stable climate.

Rational-choice theories assume that humans focus on their individual utility and profit maximisation in isolation from other actors and are therefore not able to solve social dilemmas. According to this branch of behavioural theory, cooperation would only occur as a consequence of a misconception, or through the enforcement of an external authority. In contrast to that, a comprehensive amount of field, laboratory and experimental field research (for a review, see Poteete et al., 2010) has shown that humans cooperate at much higher rates than rational models predict, and that the provision of certain factors has an impact on an individual's propensity to do so.

What exactly is cooperation? Melis and Semmann (2010, p. 2663) define it as "behaviours which provide a benefit to another individual (recipient) or are beneficial to both the actor and the recipient". Nowak and Coakley (2013, p. 4) highlight the costly character of cooperation by defining it as "a form of working together in which one individual pays a cost (in terms of fitness, whether genetic and [*sic*] cultural) and another gains a benefit as a result". Messner et al. (2013, p. 9) add that these costly actions must show other-regarding preferences in order to truly constitute cooperation. In real-life events, such as climate negotiations, the motivational backgrounds of actors are difficult to disentangle. However, it should be noted that cooperation requires action that exceeds the purely selfish benefit in order to reach a common benefit.

2.3 The enabling factors for cooperation

Messner et al. (2013) argue that there has been a remarkable convergence across different disciplines about the basic enablers of cooperation. Reciprocity, trust, communication, reputation, fairness, enforcement and we-identity can be used to explain what makes cooperation work. The ordering is rather subjective, but it is important to note that reciprocity is at the centre of the diagram because it is a fundamental precondition for long-term cooperation.

Figure 1: Cooperation Hexagon

Source: Messner et al. (2013, p. 15)

Although enforcement and we-identity are also important factors, four elements are crucial to create favourable conditions for reciprocity: trust; communication as a prerequisite for the development of trust; and reputation to estimate the trustworthiness of partners and whether an interaction is perceived as being fair (Messner et al., 2013, p. 16). Interestingly, these four factors were repeatedly named in the interviews as having played a role during the process of climate negotiations. Furthermore, cooperation is more likely to endure when there is an enforcement mechanism at hand and within groups that share a common identity.

2.3.1 Reciprocity

According to the Oxford Dictionary (2017a), reciprocity is "the practice of exchanging things with others for mutual benefit, especially privileges granted by one country or organization to another". More strictly, it can be defined as a situation of mutually reflective behaviour: Actor A behaves the same way towards actor B as actor B behaved towards actor A in the past (Lerner, Bussmann, Snijders, & Brandes, 2013).

The centrality and robustness of reciprocity in the evolution of cooperation was first explored by Robert Axelrod (1984). Axelrod wanted to find out which strategy is the most successful when one is confronted with an iterated "prisoner's dilemma". Importantly, he wanted to know which strategy holds the biggest payoffs from an egoistic point of view. Therefore, he invited experts in game theory to submit programmes for a Computer

Prisoner's Dilemma Tournament, consisting of 200 rounds of games with each other. Amazingly, out of 14 contestants in the first round and 62 in the second, the simplest strategy of "tit-for-tat" won both tournaments. "Tit-for-tat" was defined as cooperate first, and then do whatever the other player did in the previous round. Reciprocity was successful because it encouraged cooperation from others; this was not achieved by defeating them.

Axelrod concluded from these findings that cooperation can emerge in a world of egoists without a central authority, and that this scenario can even be protected against infiltration from less cooperative strategies. An important precondition for this is the iteration of situations, because recognition and recall then ensure that non-cooperative behaviour does not pay in the long-run. This points already at the role of reputations. To show that friendship is not a requirement for cooperation patterns to be established, Axelrod illustrates his argument with the real-life case of German and French soldiers during trench warfare in World War I who developed an elaborated live-and-let-live system of fake shootouts.

According to Elinor Ostrom (2005), norms of reciprocity are taught in all societies, so they prevail independently from cultural differences. Importantly, 50 per cent of people use reciprocity norms, even within one-shot settings. Experiments have also shown that those who cooperate expect others to reciprocate and seek opportunities to punish non-cooperative behaviour. In fact, a substantial proportion of the population is willing to punish non-cooperators, even if it is costly for themselves (Ostrom, 2005, p. 49).

Beyond the expectation that someone does something for us when we have done something for them (direct reciprocity), evolutionary theorists have found many instances of altruistic behaviour in human history. Although this kind of behaviour is more common among individuals who are genetically related, Trivers (1971) argues that the likelihood of altruistic behaviour among non-related individuals is connected with the prospect that the behaviour will be reciprocated another time. According to Nowak and Highfield (2011), this so-called indirect reciprocity is a key element of cooperation in human societies. Although the likelihood of indirect reciprocity increases within small groups of individuals who interact repeatedly and live long lives, in a complex society "language, gossip, reputation and other mechanisms of control" increase trust in the belief that a favour will be returned one day (Messner et al., 2013, p. 16). The certainty that cooperative behaviour will be reciprocated has also been found to be a factor that increases the chances of successfully managing a common-pool resource in real-life observations (Poteete et al., 2010).

2.3.2 Trust

Trust is a key concept for the establishment of successful cooperation. As it is a psychological dimension, it is hard to capture, but its close connection to reciprocity is indicated by the definition that psychologists use. They define trust as a "psychological state comprising the intention to accept vulnerability based upon positive expectations of the intentions or behaviour of another" (Rousseau, Sitkin, Burt, & Camerer, 1998, p. 395).

At the core of an explanation of human behaviour in public-good and common-pool resource problems is the relation between "the trust that an individual has in others, the investment others make in trustworthy reputations, and the probability of using reciprocity norms" (Ostrom, 2005, p. 50). Trust, therefore, is crucial for building positive reciprocal

relations, and reputations are a way of gathering trust in societies where face-to-face interactions are less likely (Messner et al., 2013, p. 17).

Trust-building is easier within small groups with repeated interactions because the actions of others are then observable for each individual. To estimate the trustworthiness of strangers, experimental research has shown that humans often use facial expressions as a first clue. People assess whether they want to cooperate with someone by studying their faces (van't Wout & Sanfey, 2008). When people gather more information about the behaviour of others, however, they change their behaviour accordingly (Chang, Doll, van't Wout, Frank, & Sanfey, 2010).

Lewicki and Tomlinson (2003) distinguish between "calculus-based trust" and "identification-based trust". In the early stages of a relationship, calculus-based trust prevails when individuals decide whether to trust another by weighing the costs and benefits of cheating versus staying in the relationship. Over time and through repeated interactions, however, parties reach the level of "identification-based trust".

Trust in official negotiations, in contrast, constitutes (with maybe a few exceptions) the calculus-based kind of trust. Lewicki and Tomlinson name five factors that build trust at this level: competent performance; consistency and predictability; accurate, open and transparent communication; shared and delegated control; and showing concern for others.

As others assess one's qualifications and ability to perform when considering whether to trust them, competence of performance is one factor. Levels of trustworthiness are further increased when someone's behaviour is consistent and predictable, which includes scenarios in which words and actions are in agreement and pledged commitments are kept. Open communication and transparency clearly informs others about one's intentions and motives, which helps them to estimate how trustworthy one is. Shared and delegated control refers to the reciprocal nature of trust – "it needs to be given for it to be returned" (Lewicki & Tomlinson, 2003). The inclusive processes and shared decisions of authorities thus have symbolic value. Control systems, in contrast, may prompt behaviour that reinforces pre-anticipated suspicions. Finally, showing concern for others' needs, desires and interests will help to assure others that one is not acting solely in self-interest.

2.3.3 Communication

Communication has been found to be a decisive element in establishing cooperative outcomes. As described before, repeated experiments pertaining to public goods tend to illustrate decreasing levels of cooperation, unless means to communicate are provided. Communication is the most consistent variable for enabling cooperation within experimental research: Cooperation rates after 10 rounds of games pertaining to public goods without communication decreased to zero, whereas they rose to almost 100 per cent once a means of communication was established (Ostrom, 2005).

The ability to communicate face-to-face led most groups in the laboratory to develop joint strategies as well as the trust and reciprocity needed to carry out these strategies. These findings are in accordance with observations of behaviour in the field, in which many groups that use inshore fisheries, forests, irrigation systems and pastures have used communication to establish rules and norms that reduce overharvesting (Sandberg, 2008). Although

communication is regarded as "cheap talk" in rational-choice theory, which means commitments are not being kept due to contrary incentives, several experiments highlight the tendency for people to stick to their pledges, which increases the level of trust in a mutually-enforcing process.

Kerr, Garst, Lewandowski and Harris (1997) found that 68 per cent of participants followed their commitments even when contributions were completely anonymous, meaning that neither the other participants nor the experimenter could know who cheated and who did not. They concluded that the norm against violating their stated commitments is for most people an "internal, personal one", as opposed to a social one.

2.3.4 Reputation

Reputations are "the beliefs or opinions that are generally held about someone or something" (Oxford Dictionary, 2017b). Ostrom (2005, p. 51) sees an "inner triangle" and a core relationship between trust, reciprocity and reputation that affects the levels of cooperation between individuals and groups. In the first rounds of repeated experiments relating to public goods, participants cooperated based on their norms and levels of trust in others that they would reciprocate. When the levels of cooperation are relatively high in the beginning, levels of trust and rates of reciprocity increase. In an environment in which reciprocity norms prevail, there is an incentive for the individual to invest in their reputation of being trustworthy, because the long-term benefits of cooperation exceed the short-term costs. Thus, individuals who trust others with a reputation of being trustworthy can engage in "mutually productive social exchanges" (Ostrom, 2005, p. 43). Therefore, trust, reciprocity and reputation are mutually reinforcing.

This core relationship also helps to explain why face-to-face communication (and communication in general) has a positive effect: Breaking an agreement or not keeping promises creates a risk of gaining a bad reputation and being excluded from long-term, productive exchanges. In small groups of people, people rely on their own experiences with others to guess how they will behave in the future. As this is not possible in large groups, reputations begin to play an important role. Reputation-building is therefore central for indirect reciprocity (Nowak & Sigmund, 2005).

2.3.5 Fairness

Fairness is defined as "impartial and just treatment or behaviour without favouritism or discrimination" (Oxford Dictionary, 2017c). It is interlinked with equity – a term often used in the climate debates, which is defined as: "The quality of being fair and impartial" (Oxford Dictionary, 2017d).

The centrality of fairness for cooperation is indicated by a basic experiment: the Ultimatum Game. Two participants are asked to divide a fixed sum of money. The first is given the money and asked to offer any portion of it to the second. If the second accepts the offer, both can keep the money; otherwise they cannot. A purely rational action model would assume that the first player offers a minimum sum, which the second then accepts, as he still has a relative gain. The results contradict these assumptions: On the one hand, the first players frequently offer a "fair" share of the money, on average around 50 per cent. On the

other hand, the receivers frequently reject offers that are considered to be too low (Almenberg & Dreber, 2013).

Fehr and Schmidt (1999, p. 819) define fairness as "self-centered inequity aversion. Inequity aversion means that people resist outcomes which are perceived as unfair, i.e. they are willing to give up some material payoff to move in the direction of more equitable outcomes". This is in line with the finding that a substantial proportion of the population is willing to punish non-cooperators at a cost to themselves (Ostrom, 2005, p. 49). Fairness is subjective, and what is perceived as being fair is determined by making comparisons to others. Inequity is always perceived relative to some group or outcome of reference. Due to this subjectivity, fairness has been sidelined by mainstream economics, yet fairness is a major driver of human behaviour.

In common-pool resource experiments, when participants are symmetric with regards to all strategically relevant variables, the possibility of free-riding on others is the only fairness issue. When participants differ regarding the relevant variables, however, it is much more difficult to find an allocation formula that is perceived as being fair by all (Eckel & Grossman, 1996; Poteete et al., 2010, p. 225).

In an experiment on public goods geared towards imitating climate negotiations, Tavoni, Dannenberg, Kallis and Löschel (2011) distributed endowments unequally among participants. They find that inequality decreases the chances for cooperation, and successful groups counteract inequality over time. They conclude that "early redistribution from richer to poorer nations may widen our window of opportunity to avoid global climate calamity" (Tavoni et al., 2011, p. 1).

2.3.6 Enforcement

A means of enforcement is required when the other factors are insufficient to encourage cooperative behaviour. This could be sanctioning uncooperative behaviour or rewarding cooperative behaviour. Sanctioning is especially important to reverse a downward trend generated by decreasing levels of trust.

Especially in contexts in which reputation-building is not possible, such as one-shot interactions or in large and complex societies, the punishment of uncooperative behaviour enhances cooperation (Fehr & Gächter, 2002). In public-good or common-pool resource dilemmas, everybody in the group is better off if free-riding is deterred and nobody has the incentive to punish free-riders. That is why the punishment of free-riders is a second-order public good.

A number of experiments have found that humans are able to solve second-order dilemmas and, consequently, to move the outcome of first-order dilemmas closer to the optimum (for a review, see Ostrom, 2005, p. 36). Yamagishi (1986), for example, observed the effect of sanctioning on cooperative behaviour in groups of participants with low levels of trust, compared to groups with high levels of trust. When a low number of sanctions were established, both groups contributed to the punishment fund, and the level of cooperation in the group with low levels of trust increased to similar levels as in the group with high levels of trust. In a system with a high number of sanctions, those with low levels of trust contributed significantly more to the punishment fund and achieved the highest cooperation

levels. This highlights the importance of sanctioning mechanisms within environments of relationships with low levels of trust.

The establishment of a punishment fund is an example of "pool punishment", which helps to solve second-order public-good problems (Sigmund, de Silva, Traulsen, & Hauert, 2010). Another explanation for humans' ability to solve second-order public-good problems is their tendency to apply "altruistic punishment", which is the motivation to punish free-riders, even though it is costly for them and holds no material benefits. Fehr and Gächter (2002) found that people who cooperated the most were also those who felt most enraged towards free-riders; they also showed the greatest willingness to sanction. The punishment of cheaters might therefore be an intrinsic human motivation triggered by negative emotions that arise as a result of the violation of fairness concerns.

2.3.7 We-identity

Social identity can be defined as "an individual's sense of identification with and emotional attachment of a group" (Grimalda, 2016, p. 201). We-identity is accordingly a state in which several individuals identify and feel attached to the same group (as opposed to an out-group).

The influence of commonalities on levels of cooperation during evolution was first stated by Hamilton's (1964) theory of kin selection. Hamilton argued that altruistic and cooperative behaviour is more likely among genetically related individuals, because the probability of cooperative genes being passed on to the next generation increases (Messner et al., 2013, p. 16). Experimental evidence has shown that not just genetical kinship but also self-similarity based on physical tags strengthen cooperation: "Players preferentially trust similar-looking coplayers" (Sigmund, 2009, p. 8406). Furthermore, cooperation rates increase when people perceive that others belong to their in-group, even when the groups are defined randomly (Burton-Chellew & West, 2012).

Common identities in large and complex societies are mainly formed on the basis of a common culture. Shared norms or shared beliefs lead to increased levels of cooperation. Cultural similarities are not static; they are actively built. Language and communication are essential to build joint narratives that reinforce our sense of identity. Narratives – for example concerning religions, political parties, nation states or football teams – are actively used to enhance belonging and acceptance in certain groups (Akerlof & Shiller, 2009; Messner et al., 2013).

In summary, the ability of individuals to cooperate and self-organise depends on seven recurrent factors: Reciprocity is key, as it makes enduring cooperation possible. Trust, communication, reputation and fairness are the "backbone of stable cooperative interactions: take one away and cooperation fizzles" (Messner et al., 2013, p. 22). Furthermore, punishment and reward can help people to behave in a cooperative way, especially in large societies, and cooperation is easier when individuals share a common identity.

2.4 From the individual to the international level

2.4.1 The problem of scaling-up

So far, it has been shown how cooperation at the interpersonal levels and between small groups of people emerges. When one wants to examine the utility of this concept for international relations and global cooperation theory, one is automatically confronted with what Ostrom et al. (1999, p. 281) call the "scaling-up problem": the larger the number of participants of a common-pool resource, the more difficult it is to organise, agree on and enforce rules to govern the resource. When no face-to-face communication can be sustained, it might not be possible to trace back who is cooperating and who is cheating, and reputation-building becomes difficult. Free-riding becomes much easier in such a setting.

However, Messner et al. (2013, p. 23) argue that "the mechanisms of the cooperation hexagon have scale-free properties that allow them to function in societies of increasing size". However, further research has to be done in order to understand how cooperation scales-up from interpersonal relations to more complex forms. It is assumed that cooperation in large and heterogeneous settings will still be successful if the enabling factors are prevalent. Before continuing, it should therefore be outlined briefly as to what degree the enabling factors have found their way into international relations theory so far.

2.4.2 The enabling factors at the international level – theoretical evidence so far

To argue that states care about their reputations or degrees of fairness seems highly implausible from a neorealist point of view. With its emphasis on the lack of an ordering principle or a supreme authority in the international system, the subsequent importance of national interests, and the inevitability of security dilemmas, neorealism paints a grim portrait of transnational cooperation. However, other schools of international relations, such as institutionalism, have found evidence that some of the enabling factors for cooperation do, in fact, matter at the international level as well.

Acknowledging the lack of a central authority in – and the anarchic character of – the international system, Robert Keohane (1986) finds that reciprocity is consistent with the principles of sovereignty and self-help, which are preconditions for successful cooperation in such an environment. Just as US presidents Richard Nixon and Ronald Reagan used the term "reciprocity" in their descriptions of the Soviet-American relationship, he argues that Axelrod's finding of reciprocity – namely, that it is the most effective strategy for maintaining cooperation among egoists – holds true for international relations as well.

Similar to Nowak and Highfield (2011), Keohane (1986, p. 4) differentiates between specific reciprocity, such as the typical "tit-for-tat" in game theory, and diffuse reciprocity, in which "the definition of equivalence is less precise, one's partner may be viewed as a group rather than particular actors, and the sequence of events is less narrowly bounded". Trade agreements are one very common example of specific reciprocity between states. In a multilateral setting, however, cooperation through reciprocity is more difficult to achieve compared to a bilateral or small-group context. The reason behind this is that the punishment of defection will be less severe, as the "'policeman' will suffer the opprobrium of other actors for enforcing the rules while gaining only a small portion of the benefits" (Keohane, 1986, p. 12). After a comparison of the successes of the conditional and unconditional most-

favoured trade norms for the promotion of liberalisation, Keohane concludes that specific reciprocity is not a recipe for promoting cooperation in a multilateral setting because, even though it "protects users against exploitation by focussing responses on identifiable actors" (Keohane, 1986, p. 27), it "restricts possible bargains that can be reached, makes multilateral negotiations very complex, and may provoke feuds even in bilateral relationships".

Diffuse reciprocity, in contrast, reflects a principle according to which one feels obliged to contribute to a public good if "everyone else contributes a particular level of effort to the production" (Sugden, 1984, pp. 775-776) of that good. This form of reciprocity can reduce the chances of conflict in situations where interests are compatible, but it exposes its executants to abuse because non-cooperators are not punished by respective non-cooperation. According to Keohane's argument, trust-building against exposure to exploitation would, in multilateral settings, be of even greater importance compared to small experiments.

Terhalle (2011, p. 341) uses the notion of "reciprocal socialization" to explain how "rising powers are socialized into the order, while reshaping it when they enter". He perceives the Copenhagen conference as a turning point in international politics because the BASIC countries (Brazil, South Africa, India, China) refused to comply with Western leadership for the first time; he classifies this as an attempt to reshape the international order. Interestingly, he recommends the application of two social-psychological concepts to break through this ensuing deadlock: to employ "small informal groups" and "personalized interactions" (Terhalle, 2011, p. 353) in order to establish mutually accepted rules (which is in line with the theoretical approach here).

Reputation is, according to the institutionalist school, a key factor of international relations. Keohane (1984, p. 99) emphasises that "the puzzle of compliance is why governments, seeking to promote their own interests, ever comply with the rules of international regimes when they view these rules in conflict with […] their 'myopic self-interest'." Two mechanisms to gain compliance with institutions are distinguished: credible threats of retaliatory action and reputation costs (Keohane, 1984, pp. 103-108). As retaliation is costly, especially when there is a power asymmetry between the states, the key driver of compliance remains maintaining a favourable reputation in order to not be excluded from the gains of future institutionalised cooperation.

Scholars of international law apply a similar argument. One of the few areas of agreement among international law scholars is that a state's adherence to international law can be achieved by addressing concerns with their reputations. The argument behind this is that a state which violates international law develops a bad reputation, which leads other states to exclude it from future cooperative opportunities, and therefore will cause a relative loss. However, the level of compliance generated through reputation depends on how government officials value the possibility of being excluded from future cooperative agreements and other factors, such as the degree to which a government has internalised a state's reputation and a government's expectations about its term in power (Brewster, 2009).

Justice that is defined as "fairness in the way people are dealt with" (Cambridge Dictionary, 2017), and therefore interlinked with fairness, is another factor that was found to play a role in international relations theory, especially during negotiations (Albin, 2015; Albin & Druckman, 2014; Druckman & Wagner, 2016; Zartman, Druckman, Jensen, Pruitt, & Young, 1996). Zartman et al. (1996) find that no single validating principle of justice exists,

but rather that negotiators themselves come to an agreement about a notion of justice. Albin (2015) distinguishes the roles and effects of justice in negotiations: as a source of conflict and trigger for negotiations, a referent guiding negotiations, a subject of negotiation, a tool to reach effective agreements and/or a tactical tool. Two broad justice categories play a role in international negotiations: distributive justice (outcomes of negotiation) and procedural justice (process of negotiation). Justice issues are especially salient where procedural justice is concerned (Druckman & Wagner, 2016).

A review of the literature on negotiation processes emphasises the mutual influences of justice with motivational orientation, trust and shared identification. Accordingly, a "social climate in which negotiators perceive trusting relationships, share a larger professional or personal identity, and view the negotiation as a problem to be solved rather than as a contest to be won" (Druckman & Wagner, 2016, p. 407) encourages a willingness among negotiators to adhere to both the distributive and procedural forms of justice. Interestingly, Druckman and Wagner confirm here the interconnection of the enabling factors for cooperation (fairness, trust and we-identity) for the field of international relations.

Summing up, even though the management of common-pool resource problems becomes much more difficult the more actors that are involved, the expectation that the enabling factors for cooperation which are most consistently explored in experimental research also play a role at the international level is not far-fetched. However, the empirical evidence at the international level is much sparser than at the personal level.

3 Methodology

3.1 Case selection

The climate negotiations offer a great chance to examine the theory of enabling factors for two main reasons. First, climate negotiations have a history of more than 20 years, with conferences being held annually since 1995. Some of the delegates have been attending these events since the beginning. Given the regularity of interactions, it can be argued that if personal interactions matter (as the theory suggests), then this also applies to climate negotiations. Second, climate constitutes a global, complex (sink-type) common-pool resource problem. The problems of collective action arise here. As the theoretical framework is based on evidence from experimental and field research of human behaviour in the face of collective action problems, the examined case needs to have these kind of problems at its core for the theory to be applicable. Other possible cases would be multilateral trade negotiations – if one perceives free trade as being a global public good, which is less straightforward. In fact, no other policy field in the multilateral sphere exists that shares so many similarities with the experiments (and field observations) that the theory is built upon.

The Copenhagen and Paris conferences were chosen as case examples because both were high-level summits that aimed to reach an encompassing and substantial climate agreement, covering both developing and developed countries. The comparability levels of both negotiation rounds are therefore high. Furthermore, the fact that Copenhagen was not successful in producing a generally accepted outcome – and Paris was – offers the chance to carve out the differences between the two. Paris and Copenhagen can be compared regarding size, political relevance and objectives. They were therefore regarded as ideal case examples.

Although the internal similarities of both summits are high, levels of comparability are constrained by external factors that happened after 2009, influencing the prospects of an outcome. Several of these factors are as follows. Firstly, the impacts of global warming were more tangible in 2015 than in 2009 (Depledge, 2017, p. 282). Secondly, a growing number of subnational, regional and non-state initiatives built momentum for an agreement (Falkner, 2016, p. 8). Thirdly, domestic environmental problems, such as the extreme air pollution in Chinese cities, which became a major catalyst for public protests, contributed to an attitudinal change in the governments of leading pollution emitters. Fourthly, the geopolitical context was largely favourable. President Barack Obama, who was known to favour an international climate agreement, was in the final years of his presidency. The fact that this might have been the last COP with an eco-friendly American president for the time being gave the Paris negotiations further urgency (Depledge, 2017, p. 282). Lastly, the prices for low-carbon technologies were decreasing. This development implies that the costs for a transition to a low-carbon economy were lower in 2015 than during the Copenhagen conference, and that the collective action problem was less severe. However, due to path dependencies and the fact that a transition to renewable energies is costly in the first place, the collective action problems of international climate policy were still a factor in 2015.[10]

Furthermore, Depledge (2017, p. 282) argues that, despite the favourable conditions for an outcome, a risk prevailed that the Paris conference would fail due to "the complexities and challenges inherent to climate diplomacy". A comparison of the Copenhagen and Paris conferences with a focus on the internal dynamics makes sense for this reason. It is important to note that the changes that happened in between those two summits – such as regime changes, new communication channels being established, new forms of North–South cooperation, etc. – are explicitly a part of the analysis if they affected the negotiations of the Paris conference.

3.2 Introduction to the cases – the evolution of the climate regime 2009-2015

The Copenhagen and Paris conferences were held under the UNFCCC. The constitution of the climate regime has a strong impact on the dynamics of the negotiation process and has repercussions on the prospects of cooperation (see e.g. Castro & Kammerer, 2016). Therefore, a brief history of the climate regime needs to be given.

The UNFCCC, which was adopted in 1992, was the first international political response to climate change. Differentiation was, from the beginning, a core principle of the UNFCCC. Those states that were recognised in 1992 to be historically responsible for most of the greenhouse gas emissions and had the financial and institutional capabilities to bear the costs to mitigate those emissions should, according to the UNFCCC (1992, Art. 3.1), "take the lead in combating climate change and the adverse effects thereof". This became known as the principal of "common but differentiated responsibilities" (CBDR). The developed countries that should take the lead were listed in Annex I of the UNFCCC and consisted of countries from the Organisation for Economic Co-operation and Development and some members of the former Soviet Union. The division into Annex I – Non-Annex I countries reflected the economic realities of 1992, as countries such as China, India, Brazil, Singapore

10 See also footnote 8.

and Saudi Arabia were listed as Non-Annex I countries, and therefore as developing countries.

The Kyoto Protocol in 1997 went on to differentiate between Annex I countries and the rest. A list of countries that widely corresponds with the Convention's Annex I countries committed themselves to mitigation actions that would result in aggregate emission reductions of 5 per cent between 1990 and 2012 (UNFCCC, 2011). However, the United States refused to ratify the Kyoto Protocol, arguing that it would be too costly to implement. The problems of collective action in climate policy became more striking from thereon.

While the United States was refusing to participate in the Kyoto Protocol, global emission patterns changed. It became clear that the goal of stabilising global warming at a level of less than 2°C compared to pre-industrial levels would not be possible without the inclusion of developing countries, and emerging economies in particular. The fourth IPCC report in 2007 calculated that, by 2050, global emissions would have to decrease by 50-85 per cent below the emission levels of 2000, back when the developing countries accounted for half of all global emissions (IPCC, 2007). The Copenhagen conference therefore had the task to reach an agreement that would bring the United States back in as well as include emerging economies.

The negotiations for a post-2012 agreement were organised in two tracks. First, the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) was initiated in 2005. The aim of this working group was to determine a second round of mitigation targets for developed countries. Second, the Ad Hoc Working Group on Long-Term Cooperative Action under the Convention (AWG-LCA) had the mandate to develop a comprehensive outcome, including the mitigation actions of developing countries in the form of Nationally Appropriate Mitigation Actions. Negotiating in two tracks left a number of questions open: Should the negotiations result in two outcomes – one under the Kyoto Protocol and another under the UNFCCC – or should there be one comprehensive outcome? Should the agreement be legally binding or not?

The Copenhagen conference, which was held from 7-19 December 2009, was supposed to be the deadline to clarify these critical issues about the climate regime after 2012 (Bodansky, 2010). However, the summit resulted only in a political agreement negotiated by a group of roughly 25 countries, which the conference did not adopt but merely "took note of" (Meilstrup, 2010).

The provisions of the Copenhagen Accord[11] were formally adopted – with some amendments – as the Cancun Agreements during COP 16 in Mexico. However, partly due to the "bad feeling surrounding Copenhagen" (Depledge, 2017, p. 281), only about 90

11 No peak date for global emissions was determined, only that "deep cuts" of emissions were necessary "with a view to reduce global emissions so as to hold the increase in global temperature below 2 degrees Celsius" (UNFCCC, 2009, Art. 2). In terms of mitigation, the Copenhagen Accord established that Annex I countries should define their own targets, base lines and accounting rules, which should be subject to international monitoring, reporting and verification (UNFCCC, 2009, Art. 4). The mitigation pledges of Non-Annex I countries should, in contrast, be reported through "national communications", which should ensure that "national sovereignty is respected" (UNFCCC, 2009, Art. 5). Another outcome was financial support for developing countries in the form of a long-term goal of mobilising $100 billion per year by 2020 and establishing the Green Climate Fund (UNFCCC, 2009, Art. 8).

countries submitted mitigation pledges, which would have aggregated to just 60 per cent of the emission reductions required to keep the 2°C target.

It became clear that a new comprehensive framework for the climate change regime was needed. Therefore, a new round of negotiations was launched at COP 17 in Durban 2011 with the establishment of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP). The ADP was mandated to "develop a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties" (UNFCCC, 2014a), and that it should be adopted at COP 21 in 2015.

The following COPs – Doha 2012, Warsaw 2013 and Lima 2014 – laid the groundwork for an agreement in Paris in 2015. In Warsaw, the notion of Intended Nationally Determined Contributions (INDCs) was introduced to recognise the different national conditions of countries. In Lima, a process of submitting and reviewing INDCs was launched, and the foundations of a draft negotiating text for the 2015 agreement were set forth (ENB, 663).

The Paris conference led to an outcome that was regarded as a success among scholars. It was more ambitious than expected, stating that the international community will aim to hold the increase in the global average temperature to "well below 2°C above pre-industrial levels and [pursue] efforts to limit the temperature increase to 1.5°C" (UNFCCC, 2015).

It is important to note that it is not only countries that are actors in the climate negotiations but also various country groups that form the basis of common interests. Important country groups in the Copenhagen conference (in accordance with the selection criterion outlined in Section 4) were: the EU, which is the only country group registered as one party; the G77 and China, through which developing countries generally work; the least-developed countries (LDCs), which are defined under the UN; and the Alliance of Small Island States (AOSIS), which consists of 43 especially threatened island countries. Additional groups relevant for the Paris conference were: the African Group (consisting of all African countries); the progressive Independent Alliance of Latin America and the Caribbean (AILAC); and the "conservative" like-minded developing countries (LMDCs).[12] These coalitions are treated in the following as individual actors that can maintain relationships with other countries or coalitions.

3.3 Two levels of analysis

To understand which role the enabling factors for cooperation play in climate negotiations, it is helpful to look at what Messner et al. call the "meso-level" of global cooperation (2013, p. 26). At the very top level of global governance, relatively small groups of people interact – for example, in international regimes, negotiation processes and global policy networks. Successful cooperation at this stage can be conceptualised as a mixture of interpersonal and inter-institutional dynamics. On the one hand, actors at the meso-level – for example,

12 Other country groups are: the BASIC group; the Coalition for Rainforest Nations together with the Bolivarian Alliance for the Peoples of Our America (ALBA); the Arab Group; the Environmental Integrity Group, which comprises Mexico, Liechtenstein, Monaco, the Republic of Korea and Switzerland; the Umbrella Group, which is a group of developed countries that are not in the EU; and the small island developing states (SIDS) (UNFCCC, 2014b).

countries' representatives and staff of multilateral organisations of civil society organisations – interact as individuals. The "microsituational context" (Poteete et al., 2010, p. 228) becomes important here, for example questions as to whether they know each other personally or trust each other. On the other hand, these people represent the (presumed or real) interests of the countries or civil societies for which they are accountable. The decisions of individuals at this point of intersection are thus shaped by "microsituational conditions with their specific procedures, rules and heuristics" (Messner et al., 2013, p. 27). So far, little empirical research has been conducted to understand how decisions at this interpersonal and inter-institutional junction are being made, partly due to difficulties in operationalising the questions (Messner et al., 2013, p. 27).

Given the intersectional character of climate negotiations, an approach that takes the personal as well as the national levels into account is required. Therefore, two different but complementary methods were applied: expert interviews with negotiators on the one hand, and an analysis of the reports of the Earth Negotiations Bulletin on the other. Although both approaches have been evaluated separately, it has been found that the explanatory power is greatest when the results are combined. That means insights from the interviews can help to interpret results from the ENB analysis, and vice versa.

The ENB reports were useful to outline the fairness debate and patterns of reciprocity at the national level, whereas the interviews provided insights at the national and personal levels for trust and communication, and on the national level for enforcement, reputation, fairness and reciprocity.

3.4 Differences between operationalisation in the laboratory and in the field

The theory of enabling factors for cooperation is in large parts based on laboratory experiments in which games pertaining to the public good[13] are conducted with a small number of participants. The effect of communication has been tested, for example, by playing 10 rounds in which participants are not allowed to communicate, then establishing a communication channel and comparing the results. So individual factors can easily be excluded in experiments. Norms of reciprocity in human behaviour can also be observed in the laboratory by comparing rates of cooperation of individual A towards individual B with the cooperative behaviour of individual B towards individual A.

All of these means of measurement are not available in the field of climate negotiations, where up to 40,000 official delegates meet simultaneously. Therefore, a number of different categories and indicators need to be defined to be able to measure the enabling factors in the field. Reciprocity was measured by juxtaposing the "relational speaking acts" in the ENBs and are discussed in detail in Section 3.6.

For trust, it has been found that the role of the COP presidency[14] is crucial. The five factors of trust-building outlined by Lewicki and Tomlinson (2003, p. 13) should be used as a

13 For a full description of how these experiments work, see the Experimental Economics Center: http://www.econport.org/econport

14 Each COP is run by a presidency, which has the task of hosting and facilitating the negotiations. More information on the role of the presidency is provided in the empirical part.

reference to assess the ability of the COP presidency to build trust. For communication, the quality of communication – during the preparation and the COP – is an indicator. Questions such as "How transparent was the communication?", "Were all parties part of the discussions?", "How hierarchical was the communication?", "Which forms of negotiating and which discussion groups were established?" and "How much communication took place in the preparation of the COP?" are important here. The results showed that communication and trust are inextricably connected (which is already inherent conceptually, as transparent communication is a feature of trust-building). For this reason, those two factors were evaluated separately but combined in the results.

Conclusions on reputation were drawn when interviewees reported that a country was concerned about its reputation, for example that it "doesn't want to be the bad guy" or is afraid of isolation from the international community. Enforcement is connected to the constitution of the climate regime because the regime determines how the negotiated results should be enforced. Consequently, changes in the nature of the regime between the Copenhagen and Paris conferences and their effects on the negotiation dynamic are used as a parameter in this section.

Many issues under negotiation in the climate conferences have questions about fairness or equity at their core. That is why it was decided to focus on the most contentious issue regarding fairness during the Copenhagen conference and examine how this was solved after Copenhagen.

3.5 Semi-structured expert interviews

The first methodological step consists of the analysis of semi-structured expert interviews, which were conducted during COP 22 in Marrakech and additionally in Bonn in November and December 2016. The overall rationale of the interviews was to reconstruct, understand and explain the complexity of cooperation in climate negotiations through qualitative primary data and anecdotal evidence generated through face-to-face interviews with country representatives. The interviews were especially useful for exploring the informal and personal levels. Face-to-face interviews were chosen as the most effective method of collecting data, since open questions during the interviews could be addressed easily. Due to logistical constraints, two interviews were conducted by telephone.

The interviewees were negotiators or part of an official country delegation who participated in either COP 15 or COP 21 or both. Even though non-state actors play a role in the negotiation process as well, emphasis was put on interviewing country representatives because the social dilemma associated with the global common-pool resource problem of climate change applies to nation states. Civil society representatives do not face the incentive problems between self-interest (maintaining cheap fossil-driven economic development) and common interest (preserving the climate) that representatives of nation states do.

The selection of the interviewees was based on the criteria set by Gordon (1975): the availability of the representative and their willingness to provide information in an interview; the anticipated relevance of the represented country in the negotiation process; the interview partners' anticipated abilities and expertise to provide relevant information; and logistical considerations. For the purposes of this research project, it was especially

important to include the perspectives of representatives from developing and developed countries.

Besides these criteria, the final selection of interviewees was, at the end of the day, random. Two interviews were enabled through a personal network, but most of them took place through random meetings during side events or in the corridors at the venue of COP 22. Admittedly, it would have been beneficial if an interview with a representative of an emerging economy such as China, India or Brazil would have been conducted, but due to a lack of availability, this was not possible.

Ten interviews were conducted and transcribed, and seven were evaluated and included in the results. Three interviews were omitted because their contents were not relevant, detailed enough or new. The three omitted interviews were conducted with representatives from African countries, but as one interview with an African country delegate is already included – and the contents of the interviews were similar – this omission does not result in a smaller variety of perspectives.

Of the seven interviewees, six were part of official country delegations: Two were from the EU,[15] one was from an African country, one was a representative of AOSIS, one was a representative of the LDCs and one was a Western climate scientist who was accredited by developing countries and a close observer of the negotiation process. One additional interview was conducted with a researcher and expert for climate policy. The interviews were semi-structured and guideline-based. The guidelines were oriented towards the theory of enabling factors for cooperation but adjusted to the specific expertise of the interviewee. The guidelines were also adjusted according to whether the expert was representing a developing or a developed country.

The ordering of the interview questions was done in line with the logic of semi-standardised interviews, as outlined by Flick (2014, pp. 156-161). It started with an opening question ("What do you think was different in the Paris negotiations compared to Copenhagen?"), which aimed to explore the knowledge that the interviewee had immediately at hand.

In addition, "theory-driven, hypotheses-directed questions" (Flick, 2014, p. 157) were asked to gain more detailed insights. The questions not only asked for the enabling factors but aimed at aspects that allowed for conclusions about the prevalence of those factors to be drawn, in line with the measurement parameters outlined in the preceding section.

For issues concerning trust and communication, questions asked of representatives from developing countries were, for example: "Did you have the impression that your position was heard and taken into account during the Copenhagen negotiations? Was this more or less so during the Paris negotiations?" Other questions were: "Did the organization of the COP 21 and the French presidency play a role? In which way? How was the general 'communication mood' compared to Copenhagen? Did the presidency change the strategy of negotiations and, if yes, in which way did this influence the outcome?"

For the issue of fairness, it was asked, for example: "Would you consider the agreement as fair? And do you think fairness was important for the negotiations to succeed?" For the issue

15 Interviewees from other developed countries were not available.

of reciprocity, it was asked: "How did you negotiate with a country which was in opposition to your demands? Was there a 'tit-for-tat', which means that you made concessions to the other country in some points in return for concessions by that country for your demands?" Especially the answers to the last question often remained vague and less tangible, which is why the second methodological step was necessary. The ordering and selection of questions was adjusted, and new questions were added after the interviewer had gained more knowledge about the relevant aspects. As a final question, the Cooperation Hexagon was shown to the interviewees before they were asked as to which factors they thought were crucial.

The interviews were recorded with a recording device and transcribed to assess the entirety of the data and to avoid any loss of information. Only in a few exceptions were passages that were not relevant to the topic not transcribed. The transcripts were analysed through qualitative content analysis using the MaxQDA software application. The content was structured in a category system consisting of the seven enabling factors for cooperation, plus one category for informal communication and personal relations, and one category for other factors such as increasing the co-benefits of climate policy or changes in an administration's attitude. The category system was therefore deduced from the theory.

Given the interconnection of the factors, a strict distinction between the categories was not practicable. Instead, an overlapping of the categories was allowed. To serve the purpose of exploring a subject that has not received much theoretical scrutiny thus far, the category system was broadly defined in order to include all relevant information.

The category "communication" was coded, which includes all acts of listening and speaking as well as information on communication channels and the modes of negotiating. The category "trust" was coded not only when interviewees mentioned trust directly, but also when they used examples to illustrate how trust was built or lost. The category "informal communication and personal relations" was coded if interactions between negotiators that exceeded the formal negotiations were mentioned. The category "reputation" was coded when the interviewee indicated that a country's concern about reputation (not wanting to be the "bad guy", fear of isolation, fear of blame) was given as an explanation for a country's behaviour.

The category "fairness" was applied when information on contested issues between Annex I and Non-Annex I countries was given (there is a long list of such issues, among others: mitigation, a long-term temperature goal, finance, capacity-building, technology transfer and resilience), but also when aspects of fairness concerning procedure were mentioned (unfair treatment by other countries or the presidency, etc.). The category "enforcement" applied to statements about the nature of the climate regime and the level of enforcement it should have, for example whether or which parts of an agreement should be legally binding. Finally, "reciprocity" was coded when mutual exchange processes were described (for example, when text passages were negotiated) or when information was provided that helped to interpret the results of the ENB analysis.

The interview approach is crucial to understanding rather subjective factors such as trust, communication, personal relations and reputation. This is achieved by providing anecdotal evidence and insights on behind-the-scenes processes. Limits to this approach arise because not every interviewee was involved at every level of negotiation, and interviewees might also not have been willing to talk about very informal or secret processes. As the Copenhagen conference occurred six years ago, another limitation stems from the ability of

interviewees to remember the proceedings. Each respective full interview was chosen as the context for interpreting the categories. Furthermore, newspaper articles and reports about the negotiations in secondary literature were used to put the statements into context.

3.6 Reciprocal relations between developed and developing countries

The answers about the factor of reciprocity in the interviews often remained abstract. Therefore, a second methodological step was taken. This is a modification of Castro and Kammerer's (2016) research approach. Castro and Kammerer use a comprehensive dyadic dataset based on the reports of the negotiations in the ENBs[16] from 1995 to 2013 to examine "to what extent the artificial split of UNFCCC parties into Annex I and Non-Annex I countries led to a division of these two groups in the negotiations, beyond the countries' actual preferences" (Castro & Kammerer, 2016, p. 1) and to examine which causality is behind this split. They define countries' negotiation behaviours as "whether a country reacts in a cooperative or conflictive way to another country's oral statements". To test their hypothesis, they code the statements of countries in the negotiations towards other countries, thereby distinguishing between cooperative ("speaking on behalf of, supporting, speaking with or agreeing with one another") and conflictive ("delaying, opposing or criticising others' positions or statements") behaviour (Castro & Kammerer, 2016, p. 1). The topics or issue areas of the statements were coded as well.

On the basis of all such coded negotiation events between 1995 and 2013, Castro and Kammerer apply a Relational Events Model, in accordance with Lerner et al. (2013), which helps to uncover "rules that govern behavior" (Lerner et al., 2013, p. 11) in repeated social interactions. They apply a regression model that allows for distinguishing between which factors increase the likelihood of a specific interaction and which factors increase or decrease the frequency of an interaction.

They not only introduce the variable "same annex" to test their hypothesis and apply a number of dummy variables,[17] but they also use network statistics as independent variables. One of the network statistics they examine is reciprocity, which they define as "actor A reacts to actor B in the same way as actor B has treated actor A in the past", or "when actor A supported actor B in past negotiation events, actor B supports actor A in the future" (Castro & Kammerer, 2016, p. 13). As a result, they find in their model that "a significant, positive reciprocity parameter indicates that reciprocating cooperative events increases the likelihood of cooperative events in the future" (Castro & Kammerer, 2016, p. 13).

This approach is, with some modifications, very suitable for examining the role of reciprocity as an enabling factor for cooperation in COP 15 compared to COP 21. However, some basic changes need to be made: The network statistics are not practicable due to a smaller dataset, but the definition for reciprocity – and most of all, the coding scheme – can be used.

It was decided to use Castro and Kammerer's approach of coding the country statements in the ENBs because it offers the best – and, in fact, the only – systematic way of measuring reciprocity in the climate negotiations. Arguably, many important decisions are made in

16 The ENBs are available online: http://www.iisd.ca/vol12

17 See Castro and Kammerer (2016, pp. 14-16) for a full list and explanation of the different variables.

informal meetings, but those cannot be reconstructed in an ex post facto study. The ENBs provide the most comprehensive, systematic and consistent accounts of the climate negotiations. For this reason, the ENBs are the best available source for an analysis of reciprocity.

Consequently, the method of coding all acts of speaking of one country (or country group) that relate to another country (these will be called "relational speaking acts" in the following) will be transferred to the Copenhagen negotiations and the Paris negotiations. As with Castro and Kammerer, it will be categorised as cooperative ("speaking on behalf of, supporting, speaking with or agreeing with one another") and conflictive ("delaying, opposing or criticising others' positions or statements") behaviour. Both categories will be narrowed down to incidents of "agreement" or "opposition".

Later on, it can be traced back as to which country cooperated with which other country on which occasion. Furthermore, a quantitative evaluation of cooperation events should show whether – and how many – reciprocal relations between certain countries emerged in the 2009 and 2015 negotiations.

It can be assessed as to which reciprocal relations emerged and how strong they were, that is, how many times behaviour was reciprocated back and forth. Negative reciprocity should also be measured, which means that the conflictive behaviour of country A towards country B is followed up with the conflictive behaviour of country B towards country A. The expectation is that there were more relations with positive reciprocity during the Paris negotiations, especially between developed and developing countries.

Here is an example from COP 21 of a statement that was made on 4 December 2015: "On mitigation (Article 3), the EU, supported by Colombia, for AILAC, Maldives, for AOSIS, and the US called for clarifying the date for the submission of contributions" (ENB 657). The topic of this unit of text is coded in the category of "mitigation".[18] The EU is supported by AILAC, the AOSIS and the United States. Therefore, it is coded as "AILAC Support EU", "AOSIS Support EU" and "United States Support EU". At the same time, AILAC, AOSIS and the United States agree in their support towards the EU. So the additional entries "AOSIS Agreement AILAC", "United States Agreement AOSIS" and "United States Agreement AILAC" are made.

Although the direction of the speaking act is clear-cut when it is reported that one party supported or opposed another, this is more difficult to assess when it comes to agreements between parties. Here is another example: "On finance, the EU, NEW ZEALAND and the US stated developed countries should meet their obligations, and that others in a position to do so should contribute" (ENB 656).

Although it remains a matter of interpretation as to whether the statements of the EU, New Zealand and the United States in this case were negotiated beforehand, the psychological dimension of a statement that is repeated later on by another party during the negotiation is that the later party strengthens and emphasises the position of the first party. That is why it

18 This statement entails organisational matters regarding mitigation, so it could be coded as "organisation" as well. However, as in such a case, "the topic that is perceived to be more central to the discussions" (Castro & Kammerer, 2016, p. 37) is coded as "mitigation" only.

was determined here to code cases such as these as "New Zealand Agreement EU", "US Agreement New Zealand" and "US Agreement EU", and therefore it serves as an example of a cooperative act of the later party towards the former.

In the next step, the main actors of both negotiation rounds are sorted out. Therefore, it was determined that a main actor must have partaken in the rounds at least 60 times, either as speaker or as recipient. The limit of 60 was established because both negotiation rounds consisted of roughly 1,200 speaking acts each, so 60 means that an actor must have appeared in at least 5 per cent of the total in order to be classified as a main actor.

Following this, the cooperative and conflictive relations of country pairs were compared. An example of negative reciprocal relations is those between the EU and the G77 when "the EU, called for a Copenhagen agreement to be inclusive, encompass non-Annex I parties", and later on "the G77/CHINA, called on parties to fulfil the mandate of the BAP and to reject attempts to shift responsibility onto developing countries" (ENB 449). This scheme was applied to outline all reciprocal relations between main actors.

A relation was defined as being reciprocal if at least one-third of relational speaking acts were reciprocated and only those relations that consisted of at least four speaking acts were included. If, for example, Japan agreed three times to a statement of the EU's and the EU agreed one time to a statement of Japan's, then this relation is still considered to be reciprocal, whereas a relation of four to zero is excluded. This is admittedly a rather arbitrary selection criterion, but it was needed to limit the number of relations examined. The arbitrariness of this practice was counteracted by listing all relevant reciprocal relations and classifying them into weak and strong reciprocal. The reciprocal relations between developed and developing countries were then compared, and the contents of the statements were analysed to gain a deeper understanding about the subjects of the interactions.

There are some limitations to this approach. First, it cannot provide insights on the personal level, since the ENBs are reports of the formal negotiation rounds. Second, ENBs are not full transcripts of the negotiations but only summaries, so there is a possibility that less influential parties are systematically represented less. Third, the ENBs that summarise those meetings which are open to the public do not necessarily reflect the entire negotiation process. In fact, the main decisions might be made in informal, closed sessions. Nevertheless, the ENBs are the best sources for those negotiations that are public. Fourth, ENBs reflect the diplomatic language used in negotiations. Criticisms or opposition might be stated less often or be less obvious. A fifth limitation arises due to uncertainty about the ordering of countries in the statements. The method of coding assumes that within an agreement of several countries, those that are named later in the ENBs actually spoke later. It could also be possible that more influential countries are listed first, or that countries were listed in alphabetical order on occasion.[19]

19 However, the evidence does not suggest that this is the case. Here are some examples: "BRAZIL, the EU, the LDCs, NORWAY, ARGENTINA, INDONESIA, MALAYSIA, ECUADOR and COLOMBIA called for the inclusion of a temperature goal"; "BOLIVIA, ARGENTINA, CUBA, JORDAN, INDIA and KUWAIT opposed including issues that are not in the Convention, such as net-zero greenhouse gas emissions and climate-resilient economies" (both ENB 640); "The REPUBLIC OF KOREA, NORWAY, the US, NEW ZEALAND, SWITZERLAND and CANADA supported confining the scope of the draft decision to mitigation, with a limited approach to adaptation, such as where mitigation actions deliver

A final limitation stems from the way negotiating tactics evolved. During COP 15 in Copenhagen, all important negotiations took place under the formal COP working groups, such as the AWG-LCA and the AWG-KP. The most important working group in the run-up to the Paris Agreement – the ADP Contact Group – closed at the end of the first week of negotiations. From there on, negotiations continued in informal rounds – "informal informals" and "indabas" – led by different ministers. As these informal rounds are not reported, an imbalance in speaking acts occurred. Whereas the coding for the Copenhagen conference comprised 1,228 relational speaking acts, the Paris conference itself was comprised of only 313.

This imbalance was compensated for by including the preparatory meetings that took place prior to the Paris conference in Bonn in June, August and October of 2015. In the preparatory meetings, the ADP – which was also the main platform for negotiations during the first week of COP 21 – convened, so it can be assumed that its inclusion does not represent a major distortion of the results. Bonn and Paris amounted together to 1,282 relational speaking acts, which is comparable to the amount in the Copenhagen conference. However, the comparability of the Copenhagen and Paris conferences is constrained by the inclusion of the preparatory meetings that took place during the Paris conference.

The combination of a qualitative method (expert interviews) with another qualitative approach that has a quantitative dimension (ENB reports) serves the rationale that both approaches will complement each other: The quantitative dimension can show that, in fact, more positive reciprocal relations prevailed during COP 21 than COP 15, whereas the interviews can help to more deeply understand why these changes occurred. For this reason, the results of both approaches are combined in the following.

4 Enabling factors for cooperation: Copenhagen 2009 and Paris 2015 compared

4.1 The Copenhagen conference in 2009

4.1.1 Trust and communication: a lack of trust during the Danish presidency

The Copenhagen conference was held 7-19 December 2009. More than 100 heads of state attended, and more than 40,000 people registered, which means that it was one of the largest environmental meetings ever held. However, "Hopenhagen" turned into "Brokenhagen": The summit resulted only in a political agreement negotiated by a group of 28 countries, which the conference did not adopt but merely "took note of" (Bodansky, 2010, p. 1). In the following, it should be examined whether the failure of the Copenhagen conference to provide a substantial outcome can at least partly be explained by an underprovision of the enabling factors for cooperation.

Trust and trust-building, which is inevitably linked to communication, and the role of the COP presidency in it were the factors named most often and most comprehensively talked about in the interviews. According to the UN procedure, the presidency should facilitate

adaptation co-benefits" (ENB 641). As no other ordering principle was found, it is quite likely that countries are listed in chronological order.

dialogue and create common ground between the parties to the Convention. A president thus should represent all parties, which implies a leading but neutral role at the same time. The national interests of host countries have to be put aside, and the presidency is not expected to put forward its own proposals, but rather to facilitate the formal UNFCCC process in the working groups (Meilstrup, 2010, p. 118).

The Danish presidency made unintentional mistakes in this process: It failed to manage the political complexities and was accused of not providing transparency or inclusiveness. First of all, the initial situation was not favourable. The negotiation process between the Bali conference and the Copenhagen conference did not proceed fast enough and left a list of open questions regarding the mitigation obligations of individual countries, the responsibilities of developed and developing countries and their finance commitments, among other issues, which all had to be addressed within the two weeks of COP 15. This created enormous expectations for the COP. "Somehow the miracle of Copenhagen was expected. And there was not sufficient realism by all negotiators in terms of is this something achievable?" (ministry employee,[20] Germany).

Five official meetings were held in preparation of the COP in 2009: three in Bonn and one each in Bangkok and Barcelona. However, those meetings were not very fruitful: Instead of engaging in constructive negotiations, states mostly kept on repeating their fixed positions (Bodansky, 2010, p. 4). As a result, a draft text of an agreement of more than 150 heavily bracketed pages was the basis with which the presidency had to work.

As a consequence of the growing external expectations for a global climate deal in Copenhagen on the one side, and the stagnation of the formal preparation process on the other, the Danish prime minister, Lars Lokke Rasmussen, made a fatal decision in summer 2009: He started to pursue a strategy that aimed to reach an agreement based on bilateral negotiations at the heads-of-state level before the actual Copenhagen conference, thereby sidelining the official UNFCCC process.

Against the warnings of the UNFCCC and the Danish minister of environment, Connie Hedegaard, Rasmussen engaged in bilateral negotiations with the leaders of the EU, the United States, Australia, Canada, China, India, Brazil, Mexico, African countries and the Maldives in summer 2009 (Meilstrup, 2010, p. 125). During the first week of December, a meeting with 20 to 30 countries was organised in Copenhagen. The Danish proposal, which had so far only been discussed bilaterally, was now introduced to the whole group. The secret document had been sent beforehand to the United States, Russia and China, which otherwise refused to participate (Meilstrup, 2010, pp. 125-127).

Half of this so-called Danish text was leaked and published in *The Guardian* on the second day of the Copenhagen conference. The Danish text consisted of a proposal for the AWG-KP and the AWG-LCA workstream. However, as only the AGW-LCA part was leaked, it created the impression that the Danes wanted "to abandon the Kyoto Protocol" and allow rich countries to emit roughly double the amount of carbon dioxide per person until 2050 compared to developing countries (Vidal, 2009, n.p.), which was a major affront to the interests of developing countries.

20 The interviewee is an employee in a German ministry who was involved in the COP 15 and COP 21 climate negotiations on behalf of the German delegation.

This incident was a defining moment of the Copenhagen conference. It created the impression that the Danes were running a non-transparent and exclusive process against the rules of UN diplomacy, and it damaged the trust of developing countries in the presidency.

> Well, in Copenhagen there was a lack of trust, there was big lack of trust. I'll give you the history of it: The Prime Minister of Denmark at that time, Rasmussen […] it was revealed on the first day of the COP in Copenhagen that the Danes had a secret text. So John Vidal from *The Guardian* released this and they immediately repudiated and said no, but it already broke trust, they said "We are here to negotiate, how can the presidency already have a secret text? He didn't tell us!" And so they didn't trust him. (Saleemul Huq,[21] LDCs)

The strategy applied by the Danes was risky and was criticised for a number of reasons. First, it gave developing countries the impression that the presidency was trying to overrule them by bringing forward a proposal that had only been discussed between a small number of powerful – primarily Western – countries. The impartiality of the presidency was therefore brought into doubt.

> The presidencies' role is to get an agreement, not to push positions. […] The presidency must be neutral, they must be trusted. A lack of trust is fatal. You can't be a good president if you are not trustable. (Saleemul Huq, LDCs)

Second, the text was not coordinated with what was being discussed in the UNFCCC process, and therefore there was a significant gap between the two proposals.

> [I]n Copenhagen what the Danes tried at that time was – because the text that was on the table was unnegotiable, had hundreds of pages – to come forward with a much more concise text. But they produced it themselves, parties didn't perceive it coming out of the negotiations. (Chief negotiator,[22] EU)

The reactions to the "Danish text" put huge amounts of pressure on Denmark, which was perceived as working only in the interest of developed countries. As a consequence, negotiators were polarised during the first week of negotiations, and a fundamental opposition between developed and developing countries became evident. The media even started to speculate about a complete collapse of the summit (Meilstrup, 2010, p. 129).

Rasmussen had hoped to regain control of the process by making two changes: He replaced Hedegaard as president and took over the chair himself on 16 December and presented the COP with the full version of the secret text, which included the proposal on the AWG-KP track. However, this move worsened the negotiating climate even more. Parties perceived Rasmussen as being the main architect of the secret texts, and negotiators from developing countries and emerging economies attacked him severely during his first session as president (Meilstrup, 2010, p. 129).

21 Saleemul Huq is an advisor to the least developed countries (LDCs), particularly on the topics of adaptation and loss and damage. He is one of the "dinosaurs" of the UNFCCC's process and has been attending COPs since 1995.

22 The interviewee is a leading negotiator of a European country and has been one of the chief negotiators of the EU since 2010.

China, for example, identified the issue as "one of trust between the host country and parties" and insisted that the presidency could not "put forward text from the sky". Bolivia criticised that the Danish texts "did not reflect the outcome of a democratic or participatory process", and Sudan for the G77/China group emphasised that parties were not ready to "rubber stamp text coming out of the blue" (ENB 457, pp. 2-3).

Rasmussen was obviously overwhelmed by the reactions and was apparently not very familiar with the Climate Convention and the politics around it. He showed little patience for "procedure, procedure, procedure" (Meilstrup, 2010, p. 130), and experienced observers said they had seldom seen a UN summit more incompetently chaired (Black, 2009).

Finally, parties – including Western countries such as the United Kingdom and Australia – insisted that the Danish proposal should not be introduced. By Thursday of the second week, more than a hundred heads of state started to arrive in Copenhagen. Rasmussen – determined to prevent an abortive summit by any means – was successful in carving out an unorthodox "Friends of the Chair" group consisting of national leaders at a dinner on Thursday night. On Friday morning, when Barack Obama arrived, 28 heads of state[23] started to draft text themselves.

China, however, was not represented by Prime Minister Wen Jiabao during the talks, even though he was in Copenhagen. This was perceived as a diplomatic blow against Obama, whose staff had been trying to set up a meeting with Wen since his arrival. This "diplomatic game of hide-and-seek" (Meilstrup, 2010, p. 132) indicates that the levels of trust were not only low towards the presidency but also between major actors. According to reports, Obama lost his patience late at night and left the room saying "I want to see Wen" (Meilstrup, 2010, p. 132), who he eventually found holding talks with the national leaders of India, Brazil and South Africa. Obama was finally successful in making a deal, which became known as the Copenhagen Accord, with his four colleagues, and he held a short press conference before leaving the venue (Meilstrup, 2010, p. 132).

The high-level negotiations also did not link back to the official negotiations very efficiently. The COP had neither mandated the formation of a group to negotiate the Accord, nor was it kept updated with developments through official channels. Senior diplomats and negotiators learned about these developments from the media, which was another offence against UNFCCC procedures, as every agreement first needs to be adopted in the plenary (McGoldrick et al., p. 825). This procedure was perceived by some negotiators as being disrespectful to their positions:

23 This group consisted of Brazil, South Africa, India and China (the BASIC group), Algeria, Australia, Bahamas, Canada, Colombia, Denmark, Ethiopia, the European Community, the European Commission, Gabon, Grenada, Indonesia, Japan, Korea, Lesotho, Maldives, Mexico, Papa New Guinea, Poland, Norway, Russia, Saudi Arabia Sudan, Sweden and the United States. The composition of the "Friends of the Chair" group is left to the presidency and should be made up under consideration of the context and the objective, but it should also be of representative character to gain legitimacy. It should include representatives from the five UN regions and across negotiating groups.

Whether newly emerging groups such as ALBA should be included is up to the presidency. It decided against the inclusion of ALBA because it had a strong ideological left-wing stance in the negotiations, and its inclusion might have been an impediment to a political deal. Excluding ALBA bore the risk that these countries would reject the deal when it was presented to the COP (McGoldrick, Williams, & Rajamani, 2010, p. 825).

> Another dimension in terms of inclusiveness was the small group negotiated a result and the developing countries were not part of it to a large extent. And key actors like the Chinese president or president Obama at that time left the conference, indicating "This is what we give for you and now take it". And this was psychologically a bad move, because then they felt not respected enough in their functions. […] Climate negotiators have a long history. Most of them have been in the negotiation process for 20 years, something like that. They know each other very well, they feel that they have ownership of the process – not the political level but the climate negotiators. (Ministry employee, Germany)

What followed was a final round of negotiations during the closing COP plenary. The negotiations were described by observers as being acrimonious, and they lasted almost 13 hours. Discussions revolved around the transparency of the process that led to the Copenhagen Accord and whether the COP should adopt it. Several parties lamented the process, for example Tuvalu, which stated that "the public announcement of a deal before bringing it before the meeting of the COP was disrespectful of the process and the UN system" (ENB 459, p. 7).

In an allegorical incident, Venezuela's special presidential envoy for climate change, Claudia Salerno, banged her country's nameplate so hard on the table in an attempt to get the attention of the Danish chair that her hand started to bleed. Raising her bloody hand, she exclaimed:

> Mr. President, do you think a sovereign country should have to cut its hand and draw blood to have the right to speak? This hand that's bleeding wants to speak and has the same rights as any of those who you call a representative group of leaders! (Edwards & Roberts, 2015, p. 101)

Saleemul Huq remembers this incident:

> The problem with Copenhagen was that it was a small group of heads of state who agreed in the end. So eight or ten were in the room, they agreed. But there are 200 countries, so when it came to the plenary, it was in fact the Danish president [who] was going to gavel it through. But then the Venezuelan envoy, a lady, she started banging her gavel on the table and her hand was cut and she was showing her hand and then finally he gave her the floor and she said "My president, Hugo Chavez, who was in Copenhagen, has given me instructions: If he has not agreed to anything, Venezuela is not agreeing to anything. These heads of state may be your heads of state, they are not my head of state. My head of state has told me, we do not agree." And then every country took the floor: "My head of state said no, we have not agreed, we were not in that little room with Obama." So a lack of trust [...] maybe China and America agreed, they are powerful countries but not everybody. They can agree, let them make a bilateral agreement, but not us. (Saleemul Huq, LDCs)

As a consequence of the procedural irregularities in the negotiation process as well as perceived substantive inadequacies in the outcome, a group of countries – including the members of the Bolivarian Alliance for the Peoples of Our America in Bolivia, Cuba, Ecuador, Nicaragua and Venezuela, as well as Sudan and Tuvalu – rejected the Accord.

It should be noted that ALBA was formed on the basis of a strong ideological agenda aimed at the transformation of the liberal international order and its members, and therefore it might have rejected a deal anyway. Nevertheless, the irregularities regarding procedures

and the perceived arbitrariness of the Danish presidency deepened their opposition and served their cause (McGoldrick et al., 2010, p. 826).

After lengthy informal discussions involving Ban Ki-moon, it was finally decided that the COP "take note of" the Copenhagen Accord and give it status in the UNFCCC process, but not as a COP decision. From a theoretical point of view, the first conclusion to draw is that – in contrast to experiments and field studies, where individuals interact – the concept of trust has additional dimensions when it comes to highly formalised political negotiations such as climate conferences. Most strikingly, not only is trust between parties an important dimension, but the trust of the parties in the presidency also matters. The five factors of trust-building outlined by Lewicki and Tomlinson (2003) are useful for analysing the difficulties of the Danish presidency in gaining trust among parties.

Most crucial shortcomings were in relation to consistency and predictability as well as accurate, open and transparent communication. The leak of the secret Danish text proposal created the impression among negotiators that the Danish presidency was not clear about its intentions and motives, and that its words and actions were not congruent. In terms of shared and delegated control, it became apparent that the Danish presidency was not confident in the normal UNFCCC process. Thus, it had started its own diplomatic initiative at the head-of-state level, which it thought it had more control over, but that created the perception among negotiators that they were being sidelined in a non-transparent process.

To sum up, the formalised processes of the UNFCCC can be interpreted as a way of decreasing levels of uncertainty, increasing the predictability of actions and thereby promoting trust among parties. By harming several of these established processes, the Danish presidency lost trust among a significant number of countries' representatives, which strongly impacted the progress of the negotiations in a negative way.

4.1.2 Fairness: major cleavages between developing and developed countries

Debates on fairness and equity with regards to climate change have a long history and have been dealt with in an extensive academic body of literature. Due to spatial constraints, only the main contested issue could be focussed on here. The aim of this section is to examine this debate around fairness so that it can be assessed in a second step and then shown how this was solved in Paris.

These debates focussing on fairness and equity are historically the most problematic aspect of climate negotiations. The difficulty in reaching an agreement in Copenhagen can largely be explained by the fact that the international community could not agree on a method that was generally perceived to be fair and that shared the costs and burdens of reducing greenhouse gas emissions.

The fairness problem stems from a dispersion of the causes and effects of climate change. Historically, the United States has been the greatest polluter, with 28.8 per cent of cumulative greenhouse gas emissions between 1850 and 2007, while China is the second, with 9.0 per cent (Clark, 2011). At the same time, China's emissions rose rapidly in the 21st century, surpassing the United States as the biggest emitter in 2005. Furthermore, the UNFCCC's Non-Annex I countries' emissions had exceeded those of Annex I countries by 2007 (Friedrich & Damassa, 2014).

Nevertheless, these patterns differ greatly if populations of countries are taken into account. Messner et al. (2010) calculate how an equal distribution of CO_2 emissions per capita worldwide would transfer into a country's carbon budget, given that a temperature rise of more than 2°C should be avoided.[24] Taking 2008 as a baseline, they find that the United States' carbon budget would be exceeded within 10 years (given stable emission patterns), Germany's and the EU's in 10 and 12 years, respectively, whereas China's would be exceeded in 24 years, India's in 88 years, and those of small developing countries such as Burkina Faso in more than 2,500 years. This short overview indicates the multi-dimensional nature of climate responsibilities.

Looking at the effects, small countries such as Honduras, Myanmar and Haiti were affected the most by the impacts of weather-related loss events between 1994 and 2013 (Kreft, 2014). The climate regime responded to the unequal distribution of causes and effects of climate change by introducing the principle of CBDR and an Annex I – Non-Annex I division. This division, however, split negotiating parties over time into two increasingly divided factions – developing versus developed countries (Castro & Kammerer, 2016). The climax was reached during the Copenhagen conference.

The main division revolved around the question of whether the differentiation introduced in the UNFCCC and maintained in the Kyoto Protocol between industrialised countries (which should commit to legally binding mitigation targets) and developing countries (which should be exempted from such commitments) should be kept or removed through a universal agreement.

The dispute had already appeared on the first day of the COP, when the representative of the G77/China group "rejected attempts to merge developed country commitments under the Protocol with similar actions for developing countries", while the EU negotiator called for an agreement "to be inclusive, encompass all building blocks and be based on the principles of the Convention". The conflict went on, with the EU stressing that "although the Protocol has been the primary tool for combating climate change since 1997, Copenhagen should result in a global, ambitious and comprehensive agreement that is more inclusive than the Protocol". The G77/China group expressed concern at the "insistence of Annex I parties on a single outcome in Copenhagen and stressed that this undermines the mandate under the Bali Roadmap" (ENB 449).

In the following, several parties took sides and supported either the EU's position or that of the G77/China group. Interestingly, every developed country (Annex I) argued in favour of a single universal agreement, whereas every developing country (Non-Annex I) emphasised the maintenance of two negotiating tracks and two outcomes.

24 These calculations are based on emission levels of 2008 and population numbers for 2010.

Table 1: Should the Copenhagen conference result in a single comprehensive agreement?	
Proponents	**Opponents**
EU	G77/China
Umbrella Group	African Group
Environmental Integrity Group	LDCs
Australia	ALBA
Japan	AOSIS
Croatia	Tuvalu
Russian Federation	India
New Zealand	China
	South Africa
	Gambia
	Algeria
	Sudan
	Zambia
	Oman
	Venezuela
Source: Author, based on ENBs 449-458	

Table 1 lists all countries that took sides in this discussion. Typical arguments of opponents to a comprehensive agreement were that this was an attempt to "shift responsibility onto developing countries", that there was still a "'huge' gap between Annex I emission-reduction pledges and what is required by science" and that "ending the Protocol was unacceptable" (ENB 449). In contrast, developed countries argued that "some Annex I countries emit less per capita than some developing countries", that it "requires all major economies to participate" (ENB 451) and that global warming cannot be limited to below 2°C by the Kyoto Protocol alone (ENB 449).

While most developing countries refused legally binding emission mitigation targets under the Convention, Tuvalu played a special role by proposing a continuation of the Protocol as well as another legally binding agreement under the Convention. The small island state apparently tried to find a compromise between the positions of the two blocks, but as it was alone, it was not successful.

With this exception, the opposition of developing and developed countries to the fundamental question of whether the Copenhagen conference should produce a single universal agreement or two different agreements was clear-cut. This indicates how the differentiation into Annex I and Non-Annex I countries led to a deep political divide between the two groups. Although differentiation regarding the principle of CBDR enabled cooperation for the establishment of the UNFCCC in 1992, it led to dysfunction over time, as it was too rigid to reflect the new political realities that had evolved with the economic rise of countries such as China and India. The result in Copenhagen was a situation of blame-shifting, whereby each country group demanded greater ambition from the other while mostly denying to step up their own level of ambition.

Besides the fundamentally different perspectives about what a fair outcome of the Copenhagen conference should look like, the procedures for negotiating that the Danish presidency applied were perceived by some parties as being unfair. Against this background, disunity regarding justice in the outcomes and an underprovision of procedural justice (in terms of Druckman & Wagner, 2016) were the reasons why different notions of fairness became a major source of conflict during COP 15.

4.1.3 The interconnection of enforcement and fairness

A rather astonishing result of the expert interviews was a repeatedly made connection between the ambitions of an enforcement mechanism – envisaged as the outcome of the negotiations – and the salience of fairness issues.

Especially since the Kyoto Protocol, negotiations have focussed on establishing a regime that is in accordance with climate science and translates the required mitigation actions into legally binding objectives for emitting countries. As this "top-down" was an approach aimed at the establishment of an enforcement mechanism, it resulted in stronger positions of countries in the negotiations, as the German ministry employee argues.

> I think we had for Copenhagen an approach by climate negotiators that the result of the Copenhagen conference, the Copenhagen Accord or whatever you want to call it, should be a top-down approach, and the world was not ready for a top-down approach. This top-down approach was driven by the science of climate. Negotiators were heading towards a result where the agreement in Copenhagen should deliver the full result, and there was not sufficient openness by all negotiating groups that they would be ready to agree to the requirements in the Copenhagen conference. […]
>
> I think Copenhagen built very much on the idea that the agreement should have a dimension for enforcement. […] And this gives individual negotiators or countries or negotiation positions a strong position, if you try to achieve something where you have an enforcement mechanism. (Ministry employee, Germany)

Similarly, climate policy expert Thomas Hale argues that a top-down regulatory model with an enforcement mechanism requires deeper forms of cooperation, which the international community could not reach at that point of time.

> So this idea came up to create a Protocol model where we could all come together and negotiate a binding agreement, and that led to the Protocol in 1997. It was always intended as a first step, and it was modestly successful as a first step, but it failed to be a first step because there was never a second step that was taken. For reasons we all know, countries were not willing to have that deep form of cooperative action on this issue. They couldn't overcome the differences. So the Copenhagen moment, representing a quo-on-quo failure, allowed the people to articulate a new vision for what can be done, and Cancun really helped, and it came together in Paris. So I'd say the institutional design was approached in a non-productive way for many years, and that's what inhibited cooperation. (Thomas Hale,[25] Oxford University)

25 Thomas Hale is a climate policy expert who has been studying the climate regime for five years. He has been actively involved in non-state action for three years. He is especially interested in a change in the regime and non-state climate action.

As China and India both have significant amounts of their populations living in extreme poverty – and at the same time are experiencing fast economic growth accompanied by increasing emissions of fossil fuels – further economic development was the top priority of those countries. There was no willingness on their part to endanger this process by committing to legally binding objectives while Western countries had the chance to develop their industries unconstrained. Imposing an enforcement mechanism on them was therefore perceived as being unfair.

> The other countries look on a different dimension: How does the necessary transformation in their economies affect their competitiveness and their distributional situation within their countries itself, and how does this translate into the approach they want to take towards own responsibilities for mitigation? India has per capita emissions of roundabout 1.5 tons, so even below the commonly understood 2 tons per capita limit every person on earth should have if we would have an equal distribution of emissions per capita. And they have a very huge share in the population that still is living in poverty, some 700 million in the rural areas of 1.2 billion people. How would responsibilities for addressing climate change affect the economic situation of the country and the possibility of India to continue on a fossil fuel base to bring prosperity to these 700 million people? […] And the answer for India, of course, is even if they are the third-largest emitter as a country in the world, we don't take any responsibility. (Ministry employee, Germany)

According to reports, one of the main obstacles of the Copenhagen conference was the refusal of China to establish a global system for measuring, reporting and verifying emissions, which it perceived as a threat to its national sovereignty (Meilstrup, 2010, p. 131). Terhalle (2011, p. 1) interprets the refusal of BASIC countries, in particular China, at the Copenhagen conference to delegate any control to an international body as a general turning point in international politics. This was the point in which those countries started to reject submitting themselves to Western leadership and began to pursue politics "to reshape the international order and its institutional design". By applying a "hard conception of national sovereignty", their aim is to protect their economic rise, but also "to counterbalance the liberal notion of independence espoused by most Western states" (Terhalle, 2011, p. 342).[26]

The protection of their economic rise and the promotion of a principally different understanding of independence are two factors that can possibly explain the persistent refusal of BASIC countries to delegate control in the form of agreeing to a legally binding climate regime. However, the aim of developed countries to include developing countries in such a regime encouraged those countries to find ways out by emphasising fairness concerns such as historic responsibilities and CBDR. Spoken in the categories of Albin (2015), fairness could also be interpreted as a tactical tool in the negotiations that is applied by emerging economies aiming to avoid legally binding obligations.

Comparing the effects of enforcement mechanisms on cooperation at the national level to the individual level, it becomes evident that – although an enforcement mechanism

26 Terhalle introduces the notion of reciprocal socialisation to explain how rising powers are socialised into the order, while at the same time reshaping it when they enter. Interestingly, he applies concepts of social psychology and argues for employing "small informal groups" and "personalised interactions" to successfully accomplish this socialisation process, which is very much in line with the theoretical approach here.

presumably has positive effects on cooperation on the national level as well as on the individual level – the establishment of such a mechanism turns out to be a challenge to cooperation in the first place.

Whereas individuals frequently solve the second-order public-good dilemma by, for example, introducing pool punishment, this is much more difficult to achieve at the international level, where notions of national sovereignty are of high priority for many countries. As a consequence, it turned out that the international community could not reach the deeper kinds of cooperation that would have been required to establish a climate regime with an enforcement capacity.

4.1.4 Reciprocity

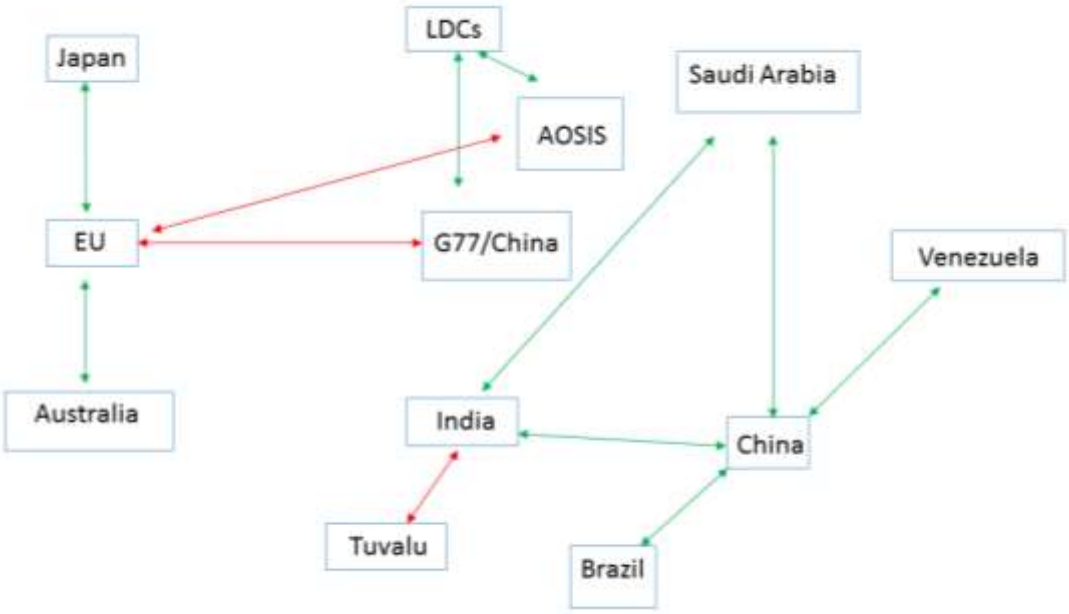
With the background of a lack of trust and divisions between developed and developing countries over fairness issues, it is no surprise that reciprocal relations between developing and developed countries during the Copenhagen conference were predominantly negative. Figure 2 shows all reciprocal relations between the main actors during COP 15 based on the analysis of ENB reports. Positive reciprocal relations were depicted in green and negative ones in red. It becomes clear that all relations between developing countries – with the exception of India and Tuvalu – were positive reciprocal, and likewise all relations between developed countries were positive reciprocal. The relations between developed and developing countries were, to the contrary, consistently negative. The EU was the only representative of developed countries that maintained relations with developing countries, that is, the G77/China group and AOSIS, but only in a negative reciprocal way.

Table 2 lists the quantified positive and negative reciprocal relations. It becomes evident that the relations between the EU and the G77/China group are the strongest negative reciprocal relations recorded, which indicates the incompatibility of their respective negotiating positions around the inclusion of Non-Annex 1 countries in a legally binding agreement. The negative reciprocal relations between the EU and AOSIS revolved around similar topics. AOSIS repeatedly highlighted the Protocol as being a central part of the climate change architecture and demanded a second commitment period, whereas the EU again argued for an inclusive, comprehensive agreement.

Furthermore, AOSIS criticised the EU's call on developed countries to cut their emissions by 30 per cent below 1990 levels by 2020 as falling "short on the ambition required" (ENB 451), emphasised the "economic and technical feasibility of 45 per cent emission reductions by 2020" and noted that "current Annex I pledges would only amount to 13-19 per cent reductions" (ENB 449). The negative reciprocal relations between India and Tuvalu are the only pattern-breaking relation.

The main contested matter between those two countries was Tuvalu's proposal to establish a second legally binding agreement – a new "Copenhagen Protocol" in addition to an amendment of the existing Kyoto Protocol – which India (together with China, Saudi Arabia and South Africa) strongly rejected (ENB 451).

Figure 2: Reciprocal relations during COP 15



Source: Own illustration, based on ENBs 449-458

Table 2: Quantified positive and negative reciprocal relations COP 15

Party 1	Party 2	Relation
Australia	EU	5 – 2
LDCs	AOSIS	4 – 3
China	India	3 – 2
China	Brazil	3 – 2
Japan	EU	3 – 1
Saudi Arabia	China	3 – 1
Venezuela	China	3 – 1
Saudi Arabia	India	3 – 1
LDCs	G77/China	3 – 1
EU	G77/China	4 – 4
EU	AOSIS	3 – 3
India	Tuvalu	3 – 1

Source: Own illustration, based on ENBs 449-458

To sum up, a lack of trust in the Danish presidency as well as between parties; principally different and irreconcilable perspectives on the nature of a fair agreement; and the attempt to establish a regime with an enforcement mechanism that ran counter to the interests of the crucial group of BASIC countries were factors that can be applied to analyse the failure of the Copenhagen conference from a theoretical perspective of the enabling factors for cooperation.

Reciprocal relations between developing and developed countries were exclusively negative. It should be noted that it is difficult to estimate whether the negative reciprocal relations were the result of an underprovision of other factors or whether negative reciprocal relations were the cause of uncooperative behaviour.[27] How the enabling factors for cooperation changed in the run-up and during COP 21, the role of personal relations, informal communication and reputation are shown in the second empirical part.

4.2 The Paris conference in 2015

4.2.1 Trust and communication: trust-building by the French presidency in the preparation and organisation of the negotiations

The 21st session of the Conference of the Parties to the UNFCCC (COP 21), which convened between 30 November and 12 December 2015 in Paris, was even more extraordinary than the Copenhagen conference regarding its size and prominence. There were about 28,000 delegates who attended, and the first day marked the largest-ever convening of heads of state in one place (Kinley, 2016). It led to the adoption of the Paris Agreement, which has broadly been praised as a milestone in international climate politics.

The success of the Paris conference has been widely accredited to the ability to build trust, the ability to include different perspectives and the ability of the French presidency – led by COP President Laurent Fabius – to skilfully manage the negotiation process. By the end of the conference, not only Western delegates such as former US Vice President Al Gore praised the French hosts for showing "the most skilful diplomacy I've seen in the more than two decades I've been going to [these kinds of] meetings" (The Straits Times, 2015, n.p.), but also the usually critical delegates, such as the formerly mentioned Venezuelan special presidential envoy for climate change, Claudia Salerno: "Laurent Fabius, the world should thank you for your tireless work and your patience" (Stothard & Chassany, 2015, n.p.).

The French became active in unprecedented rounds of climate diplomacy throughout 2014 and 2015. Various multilateral and bilateral meetings were organised in France at the ministerial as well as the working levels to build trust, gain support and test different outcomes.

> The French invested in getting everybody's trust. Not just at the COP but long before the COP. They invested a whole year of building trust with everybody, getting to know them [...] they held pre-COP meetings, they had a scientific meeting, an NGO meeting, a private-sector meeting, they brought all the stakeholders to Paris, they had at least 20 meetings prior to COP with different groups. Ministers were brought, others were brought [...] so it was a gradual build-up of trust, trust-building across many constituencies. (Saleemul Huq, LDCs)

The presidency introduced a new procedure in these pre-meetings, in which ministers were divided into groups and asked to answer direct questions that had not been published before. This organisation encouraged more focussed discussions and direct exchanges and contributed to better communication between parties (Brun, 2016, p. 120).

27 This is further discussed in Section 4.2.4.

In addition, the French Foreign Service was mobilised. Every one of France's ambassadors was encouraged to communicate the need for a climate agreement and advised to enter into dialogue with their counterparts. Numerous public and private events and meetings with government representatives, businesses and NGOs were held by French embassies around the world (Harvey, 2015a). Furthermore, Fabius and his team travelled to many different countries to understand the different expectations for a climate agreement.

> The French had, I think, five ambassadors that were travelling all over the world, talking to people in different regions, building trust and making sure that they understood each and every detail, and they had several scenarios in how they would run the COP. (Chief negotiator, EU)

In contrast to the Danish climate initiatives, which aimed at the formulation of a secret text sidelining the UNFCCC's official negotiations, the French climate diplomacy aimed at including every perspective, in line with the UN's procedures.

> They [the French] went also in many southern countries. I remember I met the French delegation in Senegal when they came to the French embassy and we discussed all things related to the Paris Agreement and the need to have this agreement in 2015.
>
> So I think that the diplomacy played a big role, and it is important because that is the UN process, so we need to have everybody on board. (Emmanuel Seck,[28] Senegal)

Listening to all parties and understanding their concerns was one of the top strategies of the presidency during the preparations and negotiation process. Fabius himself defined the approach of the presidency in a speech held in Bonn in June 2015 as follows:

> We'll be listening to every country, small and large, rich and poor, obviously paying closer, more special attention to the countries that are most vulnerable, most exposed to the effects of climate disruption that we're already experiencing. Along with the French president, we and I began several months ago – and we're going to continue – listening to all parties, in order to clearly understand your ideas, your expectations and everyone's concerns. (Embassy of France in London, 2016)

This approach helped to create the impression, especially among developing countries' representatives, that their perspectives were being taken into account, which created goodwill and trust in the presidency.

> Yes, that was another lesson that the French learned from the Danes, which is you have to listen to everyone. The French presidency under President Holland and Foreign Minister Fabius, in particular, mobilised the entire French Foreign Service. Every single ambassador in every country became a climate change ambassador. They started talking to their countries, and I know this from experience because in Bangladesh, where I'm based, a French ambassador, a lady called Sofie Aubair, was talking to the government and civil society and organising meetings and talking to her counterparts everywhere. Laurent Fabius flew to all the countries, he came to Bangladesh to listen. And that's half the battle, if you listen. Even if you don't do what they want you to do, they feel you are listening to them. If you do what they want you to do, that's even better. But even if you end up not doing what they ask you to do, if you listen to each

28 Emmanuel Seck was a member of the Senegalese delegation on the issues of finance, adaptation and mitigation during COP 21.

> country, including the smallest and most vulnerable countries, then at least they give you goodwill, you have their goodwill, they think that the French can be trusted. And they built trust, a huge amount of effort to build that trust. The Danes did not do that. (Saleemul Huq, LDCs)

In his effort to reach out to the developing countries, Fabius often aligned with the Bolivian minister of environment and president of COP 20, Manuel Pulgar-Vidal. This was another politically clever move to bridge the North–South divide of the negotiations, as Pulgar-Vidal was well-respected among developing countries' representatives.

France and Peru launched a high-level "action agenda", in which new partnerships were developed. This collaboration helped to ensure that the negotiations would be held impartially (Depledge, 2017, p. 283). Another helpful change was the invitation of heads of state at the beginning of the conference. Although the arrival of heads of state at the end of the Copenhagen conference complicated the negotiations, raised concerns over transparency and gave delegates the impression that they had lost ownership of the process, it was useful to invite heads of state on the opening day to show political will and give the process momentum.

> One of the lessons which the French learned from the Danes was don't bring heads of state at the end. When they came to Copenhagen on the last day, it was too late. Negotiations were not finished, the heads of state had to start negotiations and they weren't able to finish it because a small handful had agreed on the Copenhagen Agreement but the other ones didn't. So the other ones rejected [it]. COP has never rejected an agreement by heads of state, but in Copenhagen they did that, because it was badly done. The French took that lesson and asked the heads of state, Obama and everybody, hundreds of heads of state came, to come on the first day: "Come, give a speech, give political momentum but go away. Don't stay for negotiations, don't interfere in the negotiation, don't become negotiators, it's not your job to negotiate. Your job is to give your stamp on an agreement that we negotiated as Ministers, we should finish it. If you can't finish it, then don't come back." (Saleemul Huq, LDCs)

Furthermore, the French hosts were handling difficult individuals well. Another smart move was to entrust the Venezuelan delegate, Claudia Salerno, who had famously decried the Danish presidency in 2009, with the task of drafting the Paris Agreement's preamble. By giving her responsibility, Fabius and his team made her interested in reaching a successful outcome, and thus preempted her possible fundamental opposition (Depledge, 2017, p. 283). This procedure is in line with Lewicki and Tomlinson's (2003) trust-building dimension of shared and delegated control. The presidency entrusted potential spoilers in order to receive their trust in return.

During the conference itself, Fabius and his team were respected for shepherding the process inclusively and transparently. They listened carefully to delegates from powerful as well as small countries (Kjellen, 2016) and communicated openly about which text basis they were working on.

> I would say that there were significant differences in the way Paris and Copenhagen were negotiated and the way in which the presidency in both processes conducted the negotiations. The French were quite transparent about what was happening and communicating well what was happening, what was going to happen next, how they thought [about] certain documents, there were never surprises. But that was not the situation that was happening in Copenhagen. There was a lot of confusion in

> Copenhagen, there was this really quite open struggle between the prime minister and the minister of the environment, there were multiple versions of a text floating around, including text that seemed to be used to undermine either the prime minister or the minister of environment. So the negotiating dynamics were radically different between these two. (Legal advisor,[29] AOSIS)

The French introduced a number of new negotiation procedures. The so-called confessionals were one such procedure, whereby confidential places in which delegates could "speak from the heart" (Harvey, 2015b, n.p.) were offered to French officials in a guaranteed private setting. "Informal informals" were another procedure: Small groups of delegates from various countries were asked to address segments of disputed text, often individual paragraphs, in informal meetings (they often gathered on the floor of the conference centre), and then asked to remove the "square brackets", which indicated points of disagreement (Harvey, 2015b).

The ADP, which was the main negotiating platform for preparing the Paris Agreement after COP 17 in 2011, was closed on Saturday, 5 December after the first week and handed over the draft to the COP. From the second week onwards, negotiations were held at the ministerial level. The mode of work during the second week was the matter of main concern, with several parties calling for a fair, inclusive and party-driven process. France's special ambassador for international climate negotiations, Laurence Tubiana, addressed these concerns by reassuring parties that the negotiations would continue on the basis of the ADP text and highlighted the importance of party ownership (ENB 658, p. 1).

On the same day, Fabius outlined the mode of work for the second week, which was centred around the "Paris Committee", an unrestricted single-setting group to further the progress on the text. Furthermore, four informal working groups were established that were facilitated by ministers and supposed to work on central cross-cutting issues such as support, differentiation in the context of mitigation, ambitions and the acceleration of pre-2020 ambitions (ENB 658).

Those minister-led informal consultations were organised in so-called indabas, a format that was first introduced to climate negotiations by the South African presidency at COP 17 in 2011. Indabas stem from a tradition of South Africa's Zulu and Xhosa peoples to resolve important issues through a gathering of community leaders. Every party has the chance to state its perspectives and arguments, but only in a certain way: To avoid a repetition of positions, each party should speak personally and make their "red lines" clear – the hard limits that they are not willing to cross. At the same time, they should also propose solutions to find compromises (Rathi, 2015). Several indabas at the ministerial level were held throughout the second week, led by ministers from the global South and North (Felix, 2015). In that approach, the presidency worked as intermediator as well as text proposer.

To understand why trust in the presidency at a COP is of such crucial importance, some further general remarks about the role of the presidency should be made. The presidency has the "authority to propose" (Chan, 2016). Although countries often state that the process should be "party-driven", this does not imply that documents are actually written by the

29 This interviewee has been a senior legal advisor to the chair of AOSIS since COP 13 in Warsaw in 2013. He attended COP 15 as a scientist.

parties. Instead, they rely on co-chairs and facilitators to do the actual writing: Co-chairs create a first draft, hand it over to the parties, listen to their comments, change the draft accordingly and then come back with a revised version. This process is repeated until a draft that gains the consent of all is reached (Chan, 2015).

The co-chairs have this authority to propose because countries have difficulties in reaching compromise on their own. The spectrum of thematic issues that has to be addressed leads to discussions being fragmented, with different sections of text being negotiated in different spinoff meetings simultaneously. However, parties are often reluctant to make compromises in one area "if they do not know or feel whether reciprocal compromises are being made in other areas" (Chan, 2015, n.p.). The solution is that the co-chairs produce an encompassing proposal for a compromise. This is done so that parties are able to trace back where compromises have been made across the whole document, and to assess whether achieving only their second or third preference on some issues is balanced out by receiving their first choice on others (Chan, 2015).

> The COP presidency did negotiate with groups or countries, but not in a joint room. They came up with proposals, "This is the package, are you in agreement?", then groups were saying "Well, I don't like that part, I would like to have it this way", and "Okay, that part is fine but please don't go beyond this part, which is my red line", and then the presidency could say, "Well, I got support from XYZ and this is the red line for XZY, and I can say we can move a little bit more here." (Ministry employee, Germany)

This procedure leaves a lot of responsibility to the presidency. The judgement of the co-chairs becomes critical, as there is a certain flexibility within which countries' "red lines" are respected and their role is to find an acceptable balance, which is often described as the "landing zone" (Chan, 2015). The French presidency apparently managed this process skilfully by listening to countries' demands closely and reassuring them that their drafts reflected parties' concerns.

> In the approach that was taken in Paris, we never negotiated line by line or word by word. The French listened very well in all the different groups, and then they made a thorough assessment of where the balance would lie and from round to round, the text moved more towards the consensus. So they had a very good sense of what countries needed, what their important points were to keep them in the text still as options or in brackets or whatsoever. But then they clarified and they started with the less important stuff, they made clear how that would land and through that they narrowed down the text towards the final consensus. And as they did it on the basis of a text that was the basis that came out of the negotiation, that was part of their trust-building. (Chief negotiator, EU)

At the end of the second week, a new text proposal was presented to the COP in which all but three outstanding issues – differentiation, finance and ambition – were resolved. To reach compromise on those issues, the presidency engaged in further informal consultations and bilateral meetings, from which it was reported that the presidency paid "unprecedented" personal attention to ensure parties' issues were addressed (ENB 662, p. 3).

Especially in the last days, when the negotiations became more and more informal and less transparent, it was therefore of crucial importance that the parties trusted the presidency. The tremendous effort the French team took in the preparation of the COP to build trust therefore paid off.

> Now, that said, I think the French team had built significant trust amongst [...] normally it's about building trust amongst the parties but more importantly amongst the parties and the presidency. And so in the final days that the presidency became actually less transparent about what they were doing, they consulted with parties but then only showed them small portions of the text, they never showed them the whole text. After the Thursday evening there wasn't a full text on the table again until the one on Saturday afternoon, but they were consulting with parties on very specific issues that they knew parties would be interested [in]. So while they moved away from transparency and openness, I think there was enough trust that parties had in the presidency, or really just enough hope, that this was going to solve the issue that they were able to get away with this. (Legal advisor, AOSIS)

Some scholars argue that the Paris negotiations were actually not any more transparent compared to other COPs, but the smart diplomacy of the presidency nurtured the perception of transparency (Depledge, 2017, p. 284).

Looking back to the dimensions of trust-building outlined by Lewicki and Tomlinson (2003), it becomes clear that the French presidency performed well on all of them. The presidency was widely perceived as being competent. By keeping parties informed about the next steps and ensuring that only the text coming out of formal negotiations would work as the basis for negotiations, the consistency and predictability of actions was high. In terms of shared control, the French made a smart move by entrusting potential spoilers, such as the Venezuelan delegate, with responsible positions, which proved to be useful in gaining their trust.

The tremendous diplomatic efforts that the French made during preparations for the COP by travelling to a multitude of countries – and the willingness and patience to listen to all parties – indicate that the presidency scored especially well by showing concern for others. Winning the goodwill and trust of parties allowed the presidency to become engaged in less transparent negotiations towards the end of the conference without losing legitimacy.

4.2.2 The role of informal communication and personal relations

Informal communication and personal relations were found to be a facilitator of the negotiation process. When asked whether they thought that personal relationships and trust between negotiators on the personal level played a role, all interviewees who were part of a country delegation strongly agreed.

Personal relationships have been found to matter in two ways: First, representatives of small and vulnerable countries – whose weight in the negotiation process, based on their economic and political clout, is comparatively low – have used personal relationships deliberately to gain attention for their needs and steer the negotiation process in a favourable direction. An advisor for AOSIS explains how the creation of personal ties to powerful countries' representatives helped to bring forward a decision on pre-2020 action:

> I actually think they [personal relationships] play a significant role. I think particular[ly] AOSIS, as we are 39 small countries who have a small population, have limited resources, have very limited impact on the global climate problem, and so it's through the relationships that we built with other countries – either nationally through sort of formal allied relationships or through personal relationships at the negotiations – that we are able to most effectively put forward our ideas. […]

> So much of my work is on pre-2020 action through an AOSIS coordinated group that we call the "friends". The friends' work focuses on the negotiation track. That was a group that developed over two years we met regularly. It included developing and developed countries, AOSIS, the [United States] and the EU were at the core of it. So some of the things that we were asking for, the developed countries didn't particularly care about. They cared about the idea of increased action but were permanently focused on the Work Group 1 negotiations.
>
> So it was through a multiple series of discussions amongst this group of friends that we were able to socialise this idea to increase action and increase the action agenda and [participation of] non-state actors amongst this group and then they continued to put forward this idea. Without the relations we built, the personal relationships among the developed and developing countries' negotiators, we certainly would not have seen [as] strong a decision on this. It's quite possible that we would have not seen any decision if the group of friends wouldn't have pushed forward. (Legal advisor, AOSIS)

However, this strategy works only if the demands are not contrary to the interests of the powerful countries.

> I think the reason that that was able to work was that what we were proposing was not contrary to the interests of many parties that were participating. So [too] in this issue, in which the developed countries didn't honestly turn back, and so they allowed themselves to be pushed and potted by us, and there were times when we would have to get stern with them. I think it worked because it wasn't contrary to their interests. So in another area like finance, would making friends with the other negotiators help us achieve what they wouldn't have given otherwise? It may be possible, but those sort[s] of very small, incremental gains that it would be hard to attribute to our style of negotiating or just the domestic political situation. I think the gains may be so small. (Legal advisor, AOSIS)

Second, personal relations matter in climate negotiations as a facilitator to find consensus faster by providing an understanding of the background and interests behind negotiation positions. Fora that allow informal communication are an important component, therefore:

> I mentioned a little while ago the programme that I do in capacity-building for the LDCs, I do training workshops, help them build their capacities so they can negotiate as a group. It's a programme called ECPI, European Capacity Building Initiative. There is a part of it which we call trust-building. The trust-building programme is run by a gentleman called Benito Müller. So what Benito does, he is [a] Swiss national living in the [United States], he's a Professor at Oxford, every year in summer he brings together key negotiators from the developing countries, senior negotiators, and key negotiators from Europe for one week in Oxford and they just talk informally. It's not negotiating but talking about the negotiation issues, where you can ask questions: "Why do you have this position?" And they answer like, "We have this right-wing national party", they say this, otherwise if we don't say [...] you know, internal national politics, what's the dynamic behind it. [...] So you get to understand each other's position, if you know each other. And then when you come to the negotiations you have them opposing but you understand what they are trying to do. (Saleemul Huq, LDCs)

Besides regular informal communication channels, informal communication during the conference is of high importance. The European chief negotiator, for example, perceives informal communication as being much more important than formal communication. As negotiating has a lot to do with "understand[ing] the interests of a country behind the position they are stating", informal communication offers better chances to understand these interests:

"Sometimes you can talk more openly, but you also have a better chance to hear and understand what they are saying than when you are in a big room with 200 parties around" (Chief negotiator, EU).

A climate scientist who is a Canadian national but was part of the Ugandan delegation during COP 21 remembers how personal relationships facilitated reaching an agreement in the negotiations around capacity-building through well-attuned negotiating practices:

> The example I was giving you was in capacity-building, where I recall that it was a difficult negotiation in the lead-up to the Paris Agreement on the framework for capacity-building. But they did reach a compromise and agreed on a consensus. And I find that was basically because they sort of had negotiated together for a while and they knew each other. The same happened in technology, where they were also negotiating on the framework for technology development, and there was a compromise and they agreed on that.
>
> Right now I know there had been some changes, for example in negotiations in agriculture, maybe of a few key negotiating parties in terms of the representative. New faces are coming and you can already see the negotiators saying that "We previously knew how to handle the previous negotiator" but now we need to understand this one's approach, the kind of mandates they've been given and what angle they would want to negotiate with.
>
> So I find that with time, when they have negotiated with parties for long [periods] and they know each other, they have their ways of reaching a compromise. But when a new face is coming, then it requires you to learn [about] the person and to learn [about] the individual. So yes, indeed, personal relationships matter. (Climate scientist, Uganda)

Through the long preparation period in the run-up to Paris and the great number of informal preparatory meetings, negotiators were more familiar with each other during the Paris conference than during the Copenhagen conference, which facilitated the negotiation process:

> It does make a huge difference if negotiators know each other well! And that was the case in particular in Paris – it was also the case in Copenhagen, but much more so in Paris – and having worked with each other for years, knowing exactly how the others would act and what they really needed, that helped a lot. That you only find out if you know people a little bit more than just from the negotiation table. (Chief negotiator, EU)

4.2.3 Addressing countries' reputational concerns as a negotiating strategy

It has been found that targeting non-cooperative countries' reputations has been a negotiation strategy of the countries that aimed at an ambitious outcome. Saleemul Huq describes the negotiations with the United States about getting an article on loss and damage in the Paris Agreement as follows:

> [I]t was more like convincing them that this is the right thing to do and getting others to join and then leaving them on their own, so they don't want to be the bad guys. So in the end they compromised on the language and we obviously compromised on the language; we didn't get everything we wanted but we got the most important things we wanted, which was an article on loss and damage. (Saleemul Huq, LDCs)

So this strategy consists of a moral argumentation, winning over others for the objective on the grounds of that argumentation, and then isolating opponents and thereby making them

concerned about their reputations. Similar approaches were taken by the LDCs during COP 17 to get emerging economies, in particular China and India, to agree on the establishment of the ADP, and thereby to the idea that a universal agreement should be negotiated in 2015.

> The LDCs in Durban were instrumental in getting China and India [to] agree to that. Because in Durban, we withdrew from the G77 and we told the Chinese and the Indians that you have to do something, you cannot say you're not going to do anything and then they agreed. […]
>
> Durban went Friday night, all day Saturday, Saturday night to Sunday. There was no agreement. It was only on Saturday that the LDCs pulled out, told China and India we are not with you, you have to take action, otherwise we are not with you, and then China first said okay and then India said okay. And that was the LDCs who did it. Not against Annex I, not against [the United States] and Europe, against China and India. (Saleemul Huq, LDCs)

The change in the position of the LDCs to threaten to move out of the G77/China group was a turning point in the negotiations because it was then that China and India realised that the historic responsibility argument, which was at the centre of the division over fairness perceptions during the Copenhagen conference, would no longer work to hold the developing country group of the G77/China together. Apparently, China and India did not want to take the risk of being isolated.

The German ministry employee sees reputational concerns in addition to the rising air pollution and the increasing business opportunities of renewable energies as being the main reasons why China changed its position:

> [There was] a very clear political change in China. Because we came from Copenhagen and everybody said "China was responsible that we don't have a deal" and China very clearly after Copenhagen did not want again to take the blame. (Ministry employee, Germany)

Not only did the LDCs target India's – and in particular China's – reputation to encourage their cooperation in the climate negotiations, but the EU also did so. Even more, the EU put its economic clout in bilateral negotiations into play to raise the opportunity costs for China to maintain a non-cooperative position. Non-cooperation on climate became a handicap for China, and this overshadowed other areas of negotiations as well.

> [I]f a Chinese leader comes to Europe and every head of states has in its speaking points "We want to talk about climate change, we need to save the world and we need you to do that," and they can't come to the next issue on their speaking points unless they have discussed climate change. And always in a situation where the blame is on China, they need to defend their position. And they lose negotiating on other issues. […]
>
> If we have a leader sitting next to another leader, they have five issues which they want to discuss. This negotiation position is always: "I take something for me and you take something for you." [Y]ou will not succeed in these situations if only one party takes everything and the other party gets nothing. So if they always say "On climate change, we don't move," then on important tariffs it will get difficult, access to WTO will get difficult. [I]f you always are in the defensive position, this is something which is difficult to sustain for a long time. (Ministry employee, Germany)

The ministry employee perceives reputational costs (in addition to increasing co-benefits) as being one reason why China changed its course in climate negotiations after Copenhagen.

This is a tangible example of the institutionalist assumption that states seek to avoid a bad reputation because it might lead other states to exclude it from future cooperative opportunities, and therefore cause a relative loss. Interestingly, this behaviour of the EU confirms the findings of experimental research that cooperators seek ways to punish non-cooperators, even at a cost to themselves (Ostrom, 2005, p. 49). Since no encompassing enforcement mechanism could be established in the UNFCCC's process, due to the aforementioned reasons, the EU was apparently seeking an enforcement mechanism on a bilateral basis, thereby accepting economic disadvantages, for example in the form of less trade with China.[30]

4.2.4 Sidelining impeding fairness debates by lowering the envisaged level of enforcement

The institutional approach of the climate regime after the Kyoto Protocol up until the Copenhagen conference was based on the "global deal" model: A formula for binding, negotiated emission targets that include developed as well as developing countries should be found.

This approach led to distributional conflicts among parties, which reached their climax during COP 15. The approach that was taken thereon, in contrast, marked a shift from a "regulatory" to a "catalytic and facilitative" model, which aimed to provide incentives for actors to reduce their emissions through coordinated policy (Hale, 2016, p. 12). This shift has been praised by scholars as "a rare case of multilateral adaptation and innovation in the face of gridlock" (Hale, 2016, p. 12) and "the beginning of a new era in international climate politics, one that offers the chance of more durable international cooperation" (Falkner, 2016, p. 1108).

Contrary to the Kyoto Protocol approach, the Paris Agreement relies on countries' voluntary climate policy ambitions. Instead of trying to establish a set of quantitative emission reductions, parties are obliged to submit "nationally determined contributions" (NDCs). Falkner (2016) argues that this promises a more realistic path towards an agreement because it removes major structural obstacles to cooperation in climate negotiations. First, it accepts that most major emitters are not willing to agree to rigid "predetermined emission reductions" (Falkner, 2016, p. 1119). Second, it does away with the "'firewall' between Annex I and Non-Annex I countries" that characterised the post-Kyoto climate negotiations and removes the "distributional conflict over respective shares of the mitigation burden" (Falkner, 2016, p. 1111).

Given the withdrawal of the United States from the Kyoto Protocol, the disinclination of emerging economies to accept quantified emission targets and the ensuing debates around historic responsibilities that characterised the Copenhagen negotiations, it can be argued that lowering the envisaged level of enforcement of a climate regime was a necessary precondition for making an encompassing agreement possible. Without the change from a top-down to a decentralised, bottom-up model of voluntary pledges, the Paris conference would probably not have succeeded.

30 This paragraph could also be included in the "enforcement" chapter. It was left in here because it is an illustration of how reputational costs can translate into economic costs.

Nevertheless, the Paris Agreement is not a mere bottom-up regime. Instead, it can rather be conceptualised as a hybrid system that connects domestic climate politics with the strategic interactions between states following a "two-level game" logic (Keohane & Oppenheimer, 2016). Domestic mitigation pledges will be subject to an international review system, and therefore subject to international policy deliberation.

As measurement, reporting and verification are legally binding, the approach for enforcement taken in Paris can be described as refraining from sanctions but establishing a common benchmark system to allow for a comparison of countries' climate progress in relation to their own pledges, thereby enabling "naming and shaming". Therefore, the enforcement mechanism relies again on countries' reputational concerns.

The shift to self-determination led to broader participation than ever before: By the opening of the Paris conference, 186 of 196 parties had presented their NDCs, which is about twice the number of voluntary pledges handed in after Copenhagen (Brun, 2016, p. 116).

> We all came in a way to say, "Yes, we have a common goal." And if we have a common goal, why do we differentiate [ourselves] as different developed or developing countries? And then we say that "Yes, in the past we had these historical responsibilities of developed countries," but if we continue in this way we will not reach anything.
>
> What we need now, even if the principle of CBDR is still there, we can push it, for example, in the financial issue to call the developed countries at least to support more. But we need all to be engaged in this process because now it is not only the developed countries who are emitting, but it is all countries, particularly the emerging countries. And we said, "Okay, let's see how we'll get this together," and we rebuilt the trust by discussing and by communicating. (Emmanuel Seck, Senegal)

The NDC approach allows for self-differentiation, which implies also that parties had to accept that a fair allocation of mitigation budgets in terms of legally binding objectives was not an achievable outcome of the UNFCCC's negotiation process.

> For long time there was an expectation that the results from negotiations need to deliver on equity. And this was dropped for Paris. Paris is not the solution for equity. The issue of per capita emissions and who takes what and is this equitable or not, this was dropped. So accepting that is also an important dimension. (Ministry employee, Germany)

However, while determining the actual contributions was left to the authority of national governments, the Paris Agreement still contains "a degree of differentiation, which helped to secure the support of developing countries" (Falkner, 2016, p. 1116).

Developed countries "shall continue taking the lead by undertaking economy-wide absolute emission reduction targets", whereas developing countries "should continue enhancing their mitigation efforts" and are just "encouraged to move over time towards economy-wide emission reduction" (UNFCCC, 2015, Article 4.4). Developing countries had further successes: The establishment of the 1.5°C long-term temperature goal, a prominent role for adaptation and an article on loss and damage. Adaptation to climate change was – in addition to mitigation – labelled a second "global goal" (Article 7), and a need for "support for and international cooperation on adaptation efforts" (Article 7.6) was recognised (Falkner, 2016, p. 1116).

Furthermore, Article 8 on loss and damage was a victory for developing and vulnerable countries, even though it does not contain any legal right of compensation for climate-induced losses. "We didn't get everything we wanted, but we got the most important things we wanted, which was an article on loss and damage" (Saleemul Huq, LDCs). The European chief negotiator argued that topics which were relevant for developing countries were more advanced and better represented during the Paris negotiations, which is one factor why an agreement was reached.

> I think for me it is more the question whether it is a mitigation-focused approach or whether it is a coherent approach around several themes, and that is what Paris is about. It's about mitigation but it's also about resilience and it's about finance, it's about capacity-building, it's about technology. So you bring all the elements that you need to implement policies together, and that helps to get countries to see what is in there for them. (Chief negotiator, EU)

To sum up, fairness played an ambiguous role in the climate negotiations. Although strongly diverging perspectives on the question of how a treaty should determine quantified mitigation obligations for countries in a fair way turned out to be a major obstacle for cooperation in the Copenhagen conference, this conflict was sidelined through the bottom-up approach that emerged after Copenhagen. However, fairness in the form of differentiation continued to play a role; the fact that developing countries could successfully establish their demands, for example on adaptation and loss and damage, is one reason why the Paris Agreement gained such broad consent.

4.2.5 Reciprocity

One decisive incident of reciprocity occurred before the actual Paris negotiations: The two largest emitters, China and the United States, made a joint statement on climate change, with China announcing that it would curb emissions for the first time, and the United States committing to deep reductions by 2025 (The White House, 2014). Given the fact that the United States pulled out of the Kyoto Protocol on the grounds that it would impose unfair restrictions on the American economy if the emerging countries – and China, in particular – were left out, this common commitment was a game changer, and it would not have been possible in a non-reciprocal way. President Obama, who was facing strong opposition for his climate plans from the Republican-dominated Congress, needed a concession from China to gain domestic support.

> One very critical place where reciprocity has been important is the US–China bilateral relationship. The United States needed China to take action and commit action, not because the government of the United States wasn't willing to act unless China did as well, but rather to insulate the Obama administration from domestic criticism. So I think reciprocity in that case was critical […]. They needed to get reciprocity from China in order to allow them to do it domestically. (Thomas Hale, Oxford University)

Reciprocity in climate politics between the United States and China was a repeated dynamic during the Obama administration to get those two countries to join the Paris Agreement together (The White House, 2016). Having the two largest emitters committing to CO_2 mitigation surely had a signalling effect on other countries and influenced the negotiation process positively.

Turning now to the actual COP 21 negotiations, anecdotal evidence from the interviews suggests that reciprocal dynamics are naturally at the heart of climate negotiations.[31] However, the difficulty in assessing the range of reciprocity as an enabler of cooperation arises from the fact that most of the decisive moves are made "at night, behind closed doors" (Saleemul Huq). The Paris conference was conducted in the form of informal meetings at the ministerial level from the second week onward. That is why a full assessment of the role of reciprocity as a driver of cooperation in an ex post facto study is not possible.

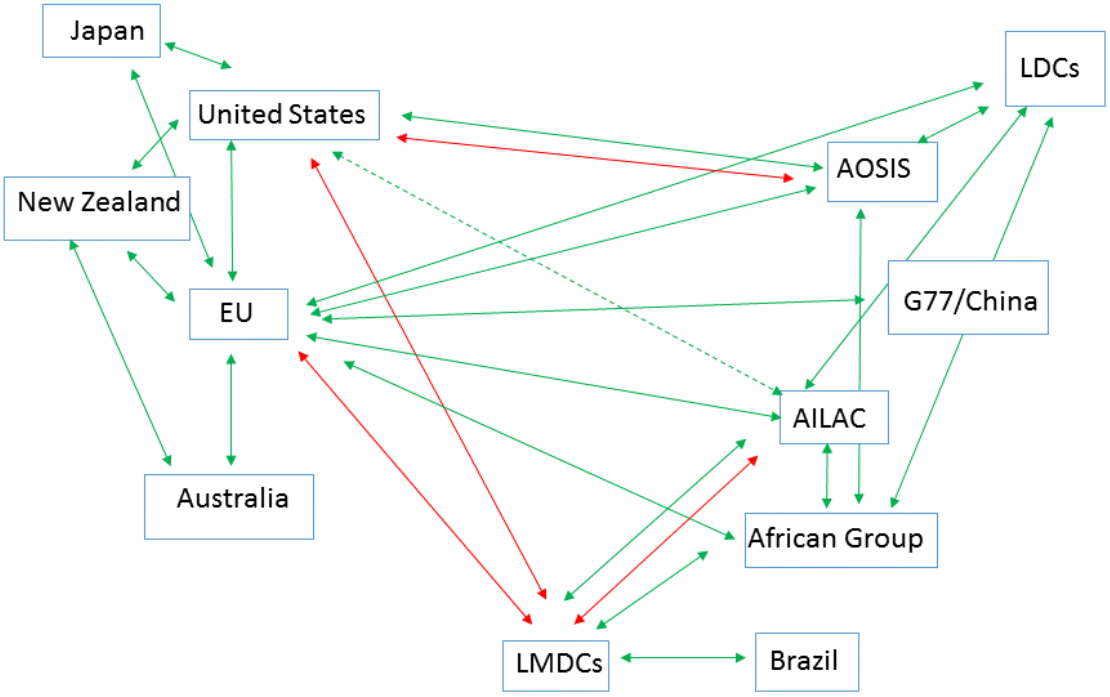
The approach applied here relies on the relational speaking acts reported in the ENBs. Figure 3 visualises the results in a network cluster of reciprocal relationships between the main parties during COP 21 and the preparatory meetings.[32] A comparison to the network cluster presented for COP 15 confirms the expectation of more positive reciprocal relations between developed and developing countries. Whereas the EU had negative reciprocal relations with the G77/China group and AOSIS during COP 15, both of these relations were positive reciprocal during COP 21. Further positive reciprocal relations of the EU emerged towards the LDCs as well as to AILAC.

The United States, which surprisingly was not a major actor in the formal Copenhagen negotiations, played a much more active role during COP 21. They had positive as well as negative reciprocal relations with AOSIS, though the positive one was stronger (as indicated in Table 3). They also had positive relations with AILAC, which did not meet the criterion for reciprocity, but it was remarkable nonetheless and therefore included here (dashed line). What is striking is the conflictive character of the reciprocal relations of the LMDCs towards the United States as well as the EU. AILAC also has negative along with positive reciprocal relations with the LMDCs.

31 AOSIS' advisor, for example, stated: "I think that's the whole negotiations. The negotiations are a process of countries articulating what they wanted and what they accept, and then there are tradeoffs between these things." Saleemul Huq describes reciprocal dynamics as being decisive when text is negotiated: "The art of getting an agreement is the skill of crafting language that is okay for you, okay for me. The language allows you to say 'you got what you wanted,' allows me to say 'I got what I wanted,' and the two may be completely different. That's why negotiated text is so convoluted. It can mean anything, you can interpret it your way, I can interpret it my way – that's the art of a negotiated text, the art of diplomacy. But you have to understand the other side, you know 'what do you need' – okay, if you do this, I can do this in the language itself. It's not a quid pro quo in that I give you money to do this. But it's a quid-pro-quo within the language: 'I give you this word, you give me this word.'"

32 In the following, only COP 21 should be spoken of, which means that the preparatory meetings are included as well.

Figure 3: Reciprocal relations during COP 21 and preparatory meetings



Source: Author, based on ENBs 629-650 and 653-662

Table 3: Quantified positive and negative reciprocal relations during COP 21 and preparatory meetings (developed – developing countries only)

Party 1	Party 2	Relation
AILAC	EU	5 – 5
United States	*AILAC*	*8 – 2*
LDCs	EU	6 – 2
EU	AOSIS	4 – 4
EU	African Group	5 – 3
United States	AOSIS	3 – 3
EU	G77	3 – 3
EU	LMDCs	5 – 3
United States	LMDCs	5 – 2
AOSIS	United States	3 – 1

Source: Author, based on ENBs 629-650 and 653-662

A deeper look into the character of the relations provides further insights as to how these results can be interpreted. The positive reciprocal relations of the EU to the developing-country groups stem from a number of issues that were in the interests of developing countries and for which the EU showed support. The EU, for example, supported – along with the G77/China group (as well as the LMDCs) – a draft decision on workstream 2, which deals with pre-2020 action (ENB 632). Furthermore, it supported discussions about a

framework on technology transfer that was proposed by the African Group and had the consent of the G77/China group (ENB 642).

The EU (as well as the United States) acknowledged developing countries' need for support to be able "to participate effectively in the measurement, reporting and verification (MRV) system" (ENB 642, p. 2), which was a demand of AOSIS and the African Group. Occasionally, the EU also became a voice for developing countries' concerns, for example when it suggested "reinstating language on LDCs and SIDS" (small island developing states) in the article on mitigation (ENB 647, p. 2), even though the LDCs and SIDS did not demand this in the preceding discussion. Although this action was certainly strategically motivated, it can be categorised as an incident of altruistic behaviour.

The strongest form of cooperation between the EU, the LDCs and AOSIS was on the 1.5°C temperature goal. The 1.5°C long-term goal was a decisive objective of AOSIS, which is indicated, for example, by a statement in which they call the guardrail of 2°C "wholly inadequate" and ask the COP presidency to take up the issue of 1.5°C "with some urgency". The EU was a strong supporter of this demand, voicing "disappointment" that the contact group had not been able to provide a draft text to the COP and called "on all parties to engage on this issue, noting that, for the most vulnerable countries 'below 2°C is not enough'" (ENB 657, p. 2).

The 1.5°C goal was one of the core issues of the "high-ambition coalition", a loose country group that had formed secretly six months before the Paris conference. The high-ambition coalition originally had roughly a dozen members, the EU and mostly small countries that shared the goal of reaching an ambitious agreement in Paris. This coalition turned out to be a game changer: Through a "snowball effect" (Brun, 2016, p. 120), more and more parties joined during the conference. At the end, it included more than 100 developing and developed countries, 79 African, Caribbean and Pacific countries, the EU, Norway, Mexico and Colombia (Mathiesen & Harvey, 2015). The United States appeared two days before the end of the conference for the first time publicly as a member of the group; the following day, Brazil joined as well (Brun, 2016, p. 120). Especially the entry of Brazil was a major change because it broke the deadlock between industrialised and BASIC countries that had characterised climate negotiations for a long time.[33]

The high-ambition coalition is the result of a longer process of differentiations in negotiation positions within the G77/China group. Although the G77/China group was the main voice of developing countries during COP 15, this block started to crumble, as vulnerable countries realised that their interests for mitigation actions were contrary to those of emerging economies and oil-exporting countries (see also the quote by Saleemul Huq on page 49 beginning with "I mentioned a little while ago [...]"). New cooperation opportunities between the EU and vulnerable countries emerged as a consequence of that change.

> The idea [about] what can be done was developed jointly, and it was always very clear that for the EU negotiation position, small island states are an ally and Africans could be an ally. But these groups before Copenhagen were not able to get out of the G77

33 It can actually be argued that this development translates also into a greater "we-identity" of nations in the face of climate change. However, it was refrained from devoting a separate section to this factor due to a lack of evidence for it in the interviews.

> developing country negotiating approach. And this has changed completely now. (Ministry employee, Germany)

The cooperative connection between the EU and vulnerable countries is also indicated by the strong positive, non-reciprocal relations of the LDCs towards the EU, with the LDCs having agreed to the EU's positions on seven occasions (Table 3). The LDCs even "thanked the EU for their positive spirit that has allowed capacity-building to be taken up at a higher level" (ENB 657) – a rare incident of harmony in the climate negotiations.

The United States was also cooperative towards AOSIS, for example by supporting the recognition of the "specific circumstances of SIDS and LDCs, including through direct access and readiness support" for finance (ENB 637, p. 2). AOSIS in return supported, for example, a warning by the United States against "prescribing countries' adaptation communications" (ENB 642, p. 1).

The LMDC group, which comprises 26 countries, among them China, India, Iran, Saudi Arabia and Venezuela, was the only country group to have negative reciprocal relations towards the EU and the United States. One of the contested issues with the EU revolved around the strength of an enforcement mechanism. While the EU, the United States and other developed countries were calling for a mechanism that is applicable to all, the LMDCs suggested that the enforcement branch should be for developed countries only, whereas developing countries should have a "facilitative branch" (ENB 640, p. 2).

Finance was also a contested issue between the LMDCs and developed countries, because the EU, New Zealand and the United States demanded that countries "in a position to do so should" contribute to climate finance, whereas the LMDCs underlined "that finance should be from developed to developing countries" (ENB 656, p. 2).

A very characteristic statement for the LMDCs came from Malaysia: "Saying the world has not changed, Malaysia, for the LMDCs, underlined that historical responsibility lies with developed countries. He underscored that developed countries have yet to meet their Convention or Protocol obligations regarding mitigation and MOI [means of implementation]" (ENB 656, p. 2). The LMDCs therefore played the role that the G77/China group had during COP 15: emphasising historic responsibilities and trying to avoid binding obligations for themselves as much as possible.

A completely different approach was taken by AILAC. Responding to the emphasis on historic responsibilities by the LMDCs, AILAC stated, together with the EU and the United States, that "the INDCs imply self-differentiation" (ENB 656). AILAC also shared common perspectives with the EU and the United States regarding reporting, as all three supported a common framework covering developed and developing countries. Regarding finance, AILAC played the role of a mediator: While the United States and the EU demanded that countries "in a position to do so" (ENB 656, p. 1) should contribute, and the LMDCs stated that finance should be from developed to developing countries, AILAC suggested that "countries willing to do so" (ENB 656, p. 2) should provide support, which is an approach that was finally adopted in the Paris Agreement (Article 9.2). AILAC – with its more flexible approach towards historic responsibilities and CBDR – had therefore the role of a bridge-builder between developing and developed countries.

Summing up, the hypothesis that more positive reciprocal relations occurred during the Paris conference than the Copenhagen conference was confirmed. Although no positive reciprocal relations were recorded during COP 15, five positive reciprocal (and two non-reciprocal) relations were recorded for COP 21. Whereas non-cooperative reciprocal relations prevailed towards the LMDCs, other developing-country groups, such as AOSIS, the African Group, AILAC and even the G77/China group, had predominantly positive relations with developed countries.

Whether this network cluster is the cause or the effect of deeper cooperation between developed and developing countries remains, unfortunately, unclear. The reality is probably a mixture of both: Although convergent interests inspire positive relations to emerge in the first place, the dynamic of reciprocity might be a driver that maintains the cooperation between two parties.

5 Conclusion

5.1 Plausibility of the theory of enabling factors in climate negotiations

Climate negotiations are a multi-dimensional, complex phenomenon. They are shaped by many exogenous factors, such as the commitments of heads of state towards green policy, the severity of climate change impacts being felt at the time of negotiating, the costs of renewable energies and climate-friendly technologies, and the range of co-benefits associated with low-carbon economies. There had been many promotive developments in these fields between COP 15 and COP 21, creating favourable conditions for a climate agreement in Paris. However, aside from this, a climate agreement would not have been possible without changes that can be captured within the theory of enabling factors of cooperation.

First of all, the ability of the COP presidencies to build trust through open and transparent communication, sufficient preparation of the negotiations and competent performance has a tremendous impact on the prospects for success in negotiations. The Danish presidency made a number of unintended mistakes by sidelining the official UNFCCC process and initiating secret negotiations in preparation of the conference and conducting negotiations with a limited number of heads of state during the second week. The perceived lack of inclusiveness and transparency was a main reason why the Copenhagen Accord was not adopted by the COP.

The French learnt from the mistakes of the Danes and made investments to gain the trust of parties. They initiated an unprecedented round of climate diplomacy in the run-up, and they cultivated a manner of listening to all countries. A collaboration with the Peruvian COP 20 presidency helped to reassure developing parties that the COP would be run impartially. By inviting heads of state at the beginning of the conference and not at the end, they helped to give negotiators the impression that they had regained ownership of the process. Furthermore, they delegated authority to potential spoilers and received their trust in return. They also introduced a number of new negotiation procedures: The “confessionals” and the “informal informals” and applied the South African concept of “indabas”, which allowed negotiators to engage in face-to-face communication to resolve contentious issues.

The French thereby listened very carefully to the different groups and, step by step, they made it clear what a balanced agreement coming out of the negotiation process would look like. Given the "authority to propose", which the presidency has, all of the trust-building initiatives were decisive because they allowed the presidency to steer the negotiations to a successful outcome, even though they became less transparent at the end of the second week.

Table 4: Main changes in the enabling factors of cooperation

	COP 15	**COP 21**
Communication and trust	A lack of trust in the presidency ensued as secret bilateral negotiations sidelining the UNFCCC's process were revealed and the negotiations were perceived as being non-transparent and exclusive	The presidency built trust by cultivating a manner of listening to all parties equally, communicating transparently and highlighting that the ownership of the process lies within the COP
Enforcement and fairness	An envisaged "global deal" with legally binding emission-reduction obligations resulted in distributional conflicts and a deep political division between developed and developing countries	A lower envisaged level of enforcement and the allowance for self-differentiation based on NDCs sidelined impeding fairness debates and enhanced participation
Reputation	Reputation did not play a role, as developed and developing countries shifted the blame mutually	As the divisions between developed and developing countries crumbled, the fear of becoming isolated became tangible, meaning that ambitious countries could address non-cooperative countries' reputational concerns in order to encourage their cooperation
Reciprocity	Reciprocity reinforces divisions, as the reciprocal relations between developing and developed countries were exclusively negative	Reciprocity deepens and maintains cooperation, as several positive reciprocal relations between developed and developing countries emerged

Source: Author

The second major change came from the evolution of the climate regime. Disunity around the issue of how to apply differentiation of mitigation obligations was a main obstacle to cooperation in the Copenhagen conference. The "global deal" – a model that aimed at the negotiation of a generally accepted formula to allocate mitigation objectives across nations – was not practicable because it reasserted the fundamentally different notions of fairness that developed and developing countries had. As national sovereignty is a strong concern, especially of the BASIC country group, these countries had no appetite for a regime that imposes legally binding mitigation objectives on them. Developed countries, on the other side, wanted an encompassing agreement. To allow for self-determination in the most contentious area of mitigation was therefore a crucial step in overcoming the divisions between developed and developing countries. Presented in terms of the enabling factors, this means that decreasing the envisaged levels of enforcement helped to sideline impeding fairness debates.

That does not mean that matters of fairness became obsolete – they continued in the form of debates around climate finance, adaptation, loss and damage, capacity-building and technology transfer. However, they were not as dominant in the most contentious area of mitigation due to the change of the regime. These issues were already clarified during COP 17 in 2011, but they changed the fundamentals of cooperation and strongly affected the

dynamics of the Paris negotiations. Besides these changes regarding the fairness of an outcome, the second dimension of procedural fairness had significantly higher priority during the Paris conference due to the inclusive way in which the presidency conducted the negotiations.

The Copenhagen conference was characterised by a confrontation between developed and developing countries, which organised and spoke mainly through one organ – the G77/China group. This changed through a differentiation in negotiation positions on the side of the developing-country block, as vulnerable and least-developed countries started to realise that their interests regarding mitigation were different from those of emerging economies and oil-exporting states. New opportunities for North–South cooperation emerged. These were observable during the Paris conference, where the EU had positive reciprocal relations with the LDCs, AOSIS, AILAC, the African Group and even with the G77/China group. The United States had positive reciprocal relations with AOSIS as well as negative relations. Especially the EU repeatedly brought forward issues that were in the interest of vulnerable countries, such as capacity-building and the 1.5°C goal, and thereby built pattern-breaking alliances for an ambitious outcome.

The only country group that maintained negative reciprocal relations through its continued emphasis on historic responsibilities was the LMDCs. However, this was counterbalanced by the emergence of a new progressive group called AILAC, which acted as a bridge-builder between industrialised and developing countries. Reciprocity was found to be a dynamic that deepens and maintains cooperative relations between countries whose interests converge.

Besides these traceable changes, it can be assumed that reciprocity was the central dynamic when the articles of climate agreements were negotiated. During the Paris conference, the presidency took over the role of mediator, listened to the different working groups and carefully assessed what an outcome that balances the different interests might look like. Given the informality of these processes, they cannot be backtraced in an ex post facto study, but they again point to the centrality of trust in the presidency.

The centrality of trust-building, the interconnection of enforcement and fairness, and the role of reciprocity are the main findings of this study. Beyond that, it was possible to gain insights into three dynamics that happened behind the scenes: the use of informal communication to find possible common ground, the building of personal relations to promote own agendas and the strategy of addressing a country's reputation to get them to cooperate.

Informal communication has been described by negotiators as being much more important than formal communication, because it offers better circumstances to understand the other's negotiating position. Once the interests are clear, it becomes easier to find common ground and create win-win situations. If negotiators meet in regular intervals, for example within preparatory meetings or trust-building initiatives, and they start getting to know each other personally, a common culture of negotiating can develop.

Vulnerable countries have used the personal ties they have built towards other negotiators as a platform to raise attention for their concerns and create a situation in which powerful countries are willing to decide on these issues. This strategy is successful if the issues at stake are not in contrast to the interests of the influential players.

Addressing countries' reputations was a way in which countries used to get others to cooperate. The LDCs used a strategy that is based on a moral argumentation to win over others for their own objectives, then isolating opponents and thereby making them concerned about their reputations. The EU countries made climate a point of discussion with China in bilateral meetings after COP 15, and it cooperated in other fields as well, such as trade being made dependent on cooperation regarding climate issues – an example of how reputational costs can translate into economic costs in the international arena.

5.2 Theoretical implications

There are a number of differences in how the enabling factors work in climate negotiations compared to how they work on the individual level. First of all, reciprocity is not as strong on the national level. Although the levels of reciprocation rise to more than 90 per cent in public-good and common-pool resource laboratory experiments when communication is allowed (Ostrom, 2005), the overall rate of positive reciprocation of all countries' relations was 41.4 per cent in the Copenhagen conference and 53.4 per cent in the Paris conference. This might be due to the different preconditions of an experimental setting where individuals engage in direct interactions and can adapt their behaviour in accordance with their observation of others' behaviours, as compared to the multi-level scenario of climate negotiations, in which several interactions happen simultaneously. Reciprocity in climate negotiations is what Nowak and Highfield (2011) and Keohane (1986, p. 4) call the diffuse or indirect type: A cooperative speaking act can be reciprocated several days later, and so the preconditions are fundamentally different from an experimental setting.

However, it also indicates that reciprocity as an enabling factor for cooperation is more difficult when national interests come into play. It is unlikely that a country is moving beyond its "red line" in an act of reciprocation – at least this movement could not be observed in the official negotiations (they might happen informally though). Reciprocity rather works in incremental changes, it helps to deepen cooperative partnerships and reinforce common negotiating positions.

Regarding communication, it is obvious that climate conferences are naturally one great communication event. Therefore, the quality and quantity of communication is decisive – whether all parties are included, whether it is transparent and whether communication is on eye level – but also how often negotiators meet to communicate: The intensive preparations in the form of communication between the parties and the presidency of COP 21 were a decisive factor.

The addition of an intermediator and text proposer in the form of a presidency is one factor that creates a fundamentally different way in which trust works in climate negotiations, compared to the individual level. Whereas trust in laboratory experiments is defined as "belief about the probability of reciprocation" (Rousseau et al., 1998, p. 395), this definition should be complemented for climate negotiations with a "belief that the presidency will take care of my interests and respect my 'red lines'". The evidence from the interviews suggests that trust in the presidency is even more important than trust between the parties. A laboratory experiment that imitates a common-pool resource problem with an intermediator would be an interesting approach to further examine how trust-building works under such circumstances.

The observation that it is much more difficult to find an allocation formula that is perceived as fair by all if participants differ regarding the strategically relevant variables – and that too much inequality among the players decreases the willingness of participants to contribute to a public good (Eckel & Grossman, 1996; Poteete et al., 2010, p. 225; and Tavoni et al., 2011) – holds very true for climate negotiations as well. Different notions of fairness regarding mitigation have stalled progress in the negotiations for a long time, and this was solved only after the countries were allowed to determine their contributions themselves.

To establish an enforcement mechanism in the form of sanctioning is extremely difficult at the international level (not only in climate negotiations). The attempt to reach legally binding mitigation commitments in Copenhagen has added to the contentious character of these negotiations. The finding that individuals are able to establish sanctioning mechanisms in public-good or common-pool resource experiments cannot easily be transferred to the international level, where notions of national sovereignty are sensitive. Keohane's (1986, p. 12) assumption that the punishment of defection will be less severe at the multilateral setting because the "'policeman' will suffer the opprobrium of other actors for enforcing the rules while gaining only a small portion of the benefits" seems to hold true for the negotiation process.

In contrast, incidents of "altruistic" punishment – in the form of a motivation to punish free-riders, even though it is costly for oneself and holds no material benefits (Fehr & Gächter, 2002) – have been found in other rounds of negotiations, as the EU sought for ways to sanction China for its (perceived) role as a spoiler in the Copenhagen conference by putting trade at stake.

Finally, reputation might be the factor of most consistence at the individual and international levels (which does not mean that it was the most powerful one). The observation Ostrom (2005, p. 51) made for the individual level (that gaining a bad reputation holds the risk of being excluded from long-term productive exchanges) and Keohane (1984, pp. 103-108) and Brewster (2009) transferred to the international level (the motivation of states to maintain good reputations so as not to be excluded from the gains of institutionalised cooperation in the future) can also be applied to climate negotiations. The game-changing developments during COP 17 – when the LDCs pulled out of the G77/China group and thereby successfully put BASIC countries under pressure to agree to a pathway for an encompassing agreement – is one example, and the changing attitude of China on the grounds (besides other factors) of not wanting to be blamed for a failing summit again is another.

What does all of this mean for global governance? The importance of regular interaction, informal face-to-face communication and personalised relationships should not be underestimated. The intensive preparation initiatives and the provision of different formats to negotiate informally within small groups during COP 21 were decisive for the summit's success. Although formal negotiations are restrained by protocols, backchannels offer a chance to openly exchange views. This has to be done in an inclusive way so that no party feels left behind; a manner of listening to all parties equally should be cultivated.

That strategy proved successful to break the "we – they" distinction that characterised the Copenhagen conference. It might be useful to renegotiate commonly accepted rules for other fields of global governance within an era of "tectonic power shifts" (Messner, 2011, p. 33), too.

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