Compromising on a climate regime: on the importance of perceptions

Carole-Anne Sénit (IDDRI-Sciences Po)

SUSTAINABLE DEVELOPMENT IS NO LONGER CONSENSUAL

The evolution of power relations induced by globalization has considerably affected the negotiators' ability to uphold the regime on sustainable development agreed on by the international community in 1992. In particular, the climate regime's variables –power levers, social goals, consensual knowledge, and rules, principles and norms framing cooperation between States– are perceived differently both between countries and decision-makers. These differences in representations hamper national and international decision-making processes on climate change, which therefore generate a failure of modern politics.

THE SUBCONSCIOUS DEVELOPMENT BIAS

Climate change negotiations show that policy action on sustainable development is based on the belief that development and therefore power can only be achieved through economic growth, and that economic growth can hardly be decoupled from emissions' growth.

THE HUMAN DIMENSION OF CLIMATE CHANGE SHOULD NOT BE NEGLECTED

The inertia characterizing the decision-making process on climate change originates in differences of perceptions of the issue itself. Negotiation documents are essentially based on a physical and economic definition of the issue, and neglect social, cultural and psychological meanings of climate. However, a changing climate induces shifts and risks which also have to be addressed at the individual and collective levels according to cognitive elements of interpretation, often at odds with rationality.

THE GOVERNANCE DEADLOCK

The shattering of the climate regime by globalization highlighted its imperfections: permeability of science to politics, legal malleability of Rio's principles, and governance fragmentation. These deficiencies gave way to the expression and domination of particular interests over general purposes, hindering coordination and action. How could democracies address this climate deadlock?

✩✩✩

✩✩✩

For more information about this document,
please contact the author:
Carole-Anne Sénit caroleanne.senit@iddri.org

Compromising on a climate regime: on the importance of perceptions

Carole-Anne Sénit
(IDDRI-Sciences Po)

INTRODUCTION

Nowadays, European citizens seem to be increasingly concerned by and confronted to climate change. According to the Eurobarometer 322 published in November 2009, climate change is indeed considered as the second most severe issue facing the world after poverty, independently from the socio-demographic categories of the respondents. As the sustainable development regime stemming from Rio Earth Summit (1992) is being shattered by globalization, the need for efficient governance on climate change becomes extremely urgent. However, the international community has clearly failed to both deliver the Rio agenda and commit to a future agreement. Regarding climate change mitigation and according to the same Eurobarometer, at least 6 Europeans out of 10 think that the actions undertaken by the European Union and national governments are neither convincing nor strict enough. It turns out that tackling climate change requires sensitive political and social choices which decision-makers are not deemed ready to carry out.

How then can we elucidate the paradox between the need for governance on climate change –expressed both by policy demanders through opinion polls and by policy suppliers through voluntary discourses and ambitious political declarations – and political and social perceived inertia? The main hypothesis developed here conveys the idea that the climate regime on which the international community agreed in 1992 is no longer consensual, as its variables, to wit – according to Haas and Ruggie's regime definition[1], power levers, social

goals, consensual knowledge, and rules, principles and norms framing cooperation between States –, are perceived differently both between countries and decision-makers. As a result, these differences in representations lead to inertia in the definition and implementation of climate change mitigation policies both at national and international levels.

Thereby, the first section of this paper argues that conceptions of power and development shape differently our perception of sustainable development and its resulted policies, particularly in terms of climate change mitigation. The second section focuses on the questioning of the social objectives defined at the Rio Earth Summit in 1992 and analyses the diverse perceptions global warming can foment. The increasing permeability of science to politics is the subject of the third section, which examines the different ways science can be influenced by the perceptions and thus interests of decision-makers. Finally, still relying on the climate experience, the fourth section of this paper focuses on two ideas: first, it analyses the divergent ways whereby sustainable development governance may be conceived; second, it studies how the malleability of the principles defined in the framework of Rio's sustainable development regime gives way to dissimilar perceptions of their content. Each section endeavours to focus on both collective and individual levels.

1. ECONOMIC GROWTH, DEVELOPMENT, POWER: PERCEPTIONS OF A DOUBLE-EDGED RELATIONSHIP

With the intensification of trade during the last decades, globalization has induced a rebalancing of power towards emerging countries. Regarding climate, this redistribution induced emerging powers such as China (1st emitting country) and traditional powers like the United States

---

1. According to Haas, a regime "encompasses a mutually coherent set of procedures, rules and norms". Ruggie defines a regime as a "set of mutual expectations, generally agreed-to rules, regulations and plans, in accordance with which organizational energies and financial commitments are allocated".

(2nd emitting country) to favour and impose short term economic objectives over long term objectives of sustainability, supported by the European Union[2].

This increasing gap between traditional and emerging powers traduces diverse conceptions of power and development. The French philosopher Michel Foucault reminds us in *The order of things* that development is subjective and discursively constructed (Foucault, 1966); in other words, collective and subjective imaginations of values are influencing the concept of development, which will be interpreted in different ways. Common to all States is their reasoning in terms of economic growth, which remains strongly anchored in collective consciousness. Indeed, through GDP, economic growth is still an important lever for States to weigh in bilateral and multilateral relations, and has therefore become politically untouchable. However, though the end is shared, the means to achieve it aren't: the paths chosen to generate economic growth can prove to be strongly dissimilar in terms of their environmental and social consequences[3].

1.1. The European Union's perception of development

The European Union, through the *Europe 2020 Strategy* – former *Lisbon Strategy*, adopted by the Member States in 2000 and revised in 2005 – seeks to make become "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion"[4]. According to the European Union's discourse, investing in research, innovation and education[5] – the "knowledge triangle" – helps to address health and environmental challenges as well as to contribute to economic growth in order to perpetuate the Welfare State. In the Lisbon Strategy, environment policies are pictured as a way to boost rather than hamper economic growth: the European Council, in its 22nd and 23rd of March 2005 Presidency conclusions, "reiterates the important contribution of environment policy to growth and employment, and also to the quality of life, in particular through the development of eco-innovation and eco-technology as well as the sustainable management of natural resources, which leads to the creation of new outlets and new jobs." This conception of a knowledge/development/ environment synergy, along with the wish to become influent at international level and increase its leadership, prompted the European Union to adopt in 2008 the Climate and Energy Package, an ambitious legislation (consisting of a set of objectives to be met by 2020) which aims at (i) reducing the Union's greenhouse gas emissions by 20% below 1990 levels, (ii) achieving a 20% share of EU energy consumption coming from renewable resources, and (iii) reducing the primary energy use by 20% compared with projected levels by improving energy efficiency. Thus, the European conceptions of power and development are primarily based on knowledge and meet in this way the theory of Michel Foucault, according to which knowledge is a form of power because its production affects and constitutes power relations (Foucault, 1980)[6].

However, beyond EU's discourse, disagreements have grown between Member States[7] and within the Commission – particularly between the energy Commissioner, Günther Oettinger, and the climate Commissioner, Connie Hedegaard: crystallised in

2. The pledges of several relevant actors listed in the Appendix of the Copenhagen Accord gives evidence of the dichotomy between short- and long-term objectives. First, while the European Union and the United States intend to limit their emissions by defining an absolute cap on the quantity of emissions (EU: 20 to 30% emissions reduction in 2020 below 1990 levels; US: 17% emissions reduction in 2020 below 2005 levels – if the domestic legislation is enforced), China and India only committed to an intensity-based emission cap (China: 40 to 45% emissions reduction per unit of GDP in 2020 below 2005 levels; India: 20 to 25% emissions reduction per unit of GDP in 2020 below 2005 levels). Besides, China and India only pledged to a short-term reduction (2020) whereas the European Union and the United States also adopted 2050 mitigation targets (EU: 60 to 80% emissions reduction in 2050 below 1990 levels; US: 83% emissions reduction in 2050 below 2005 levels). For further information, see the Copenhagen Accord at http://unfccc.int/home/items/5262.php

3. As reality is seldom finely-shaded, some differences between traditional and emerging powers' political discourse and practice will be provided. In this paper however, our reasoning showing a duality between these two groups of countries on their conception of the means to achieve development and power relies solely on an analysis of both parties' political discourse.

4. See the Europe2020 Strategy's website at http://portal.cor.europa.eu/europe2020/Profiles/Pages/welcome.aspx

5. The European Union set a goal of a 3% investment in research and development.

6. Though this theory has been demonstrated using individuals as research subjects, we assume in this paper that it is also accurate between States on the international arena.

7. While the Ministers for environment of United Kingdom, Sweden, Spain, Germany, Greece, Denmark and Portugal wanted to prompt the EU to commit to a 30% reduction in CO2 emissions (see the letter to the Guardian published on March 14th 2011, https://www.decc.gov.uk/en/content/cms/news/ChrisH_EULett/ChrisH_EULett.aspx), other member States including Poland and Italy opposed the plan.

the debate on the increase of EU's emissions reduction target to 30% by 2020, such disagreements have seriously questioned the authenticity of a European knowledge-based conception of power, all the more since the European Parliament finally ruled against such increase on July, 5th 2011[8].

1.2. The emerging nations and US' perceptions of development

Oppositely to EU's discourse, emerging powers, as well as traditional powers like the United States, conceive environmental legislation as a restraint to their development and are consequently reluctant to adopt norms which would threaten either their economic growth (China) or their way of life (United States).

On the one hand, emerging countries such as China seek to sustain their economic growth in order to achieve poverty reduction and protect their right to development. Globalization has allowed China's economy to experience a sustained rapid growth, based essentially on an export-driven approach boosted by foreign direct investment and low-cost labour. While improving living standards, Chinese development has been highly energy-consuming, and the coal industry that dominates Chinese's energy portfolio has become a vital economic activity in many regions. As a result, China's development came with a dear price to its environment, especially in terms of natural resources depletion and growing GHG emissions[9]. Increasingly preoccupied by such environmental degradation[10] as well as wanting to ensure its energy security and to foster innovation, China's government is designing and putting in practice appropriate national mitigation actions in the framework of its twelfth five-year plan (2011-2015), including a

reduction of average energy use per unit of GDP by 16%, a cut in CO_2 emissions per unit of GDP by 17%, a raise of non-fossil fuel use to 11.4% and a 21.66% increase of forest coverage. Therefore, in practice and at national level, it appears that China is transitioning to an economy driven by domestic consumption and low carbon innovation instead of exports. Nevertheless, within the international arena, Chinese's discourse is slightly different: indeed, the results of the 15th and 16th Conferences of the Parties (COP) to the United Nations Framework Convention on Climate Change's (UNFCCC) have proved that China is not ready to accept binding international environmental legislation. Regarding climate change, most emerging nations seek to defend a sufficient carbon space/budget to secure their economic growth, an objective which they claim incompatible with a low emissions level. This reasoning, along with the preference for some values such as sovereignty (Tubiana, 2010)[11], partly explains why emerging nations refuse to internationally commit to binding emissions reductions and stress that the main responsibility lies with developed countries.

On the other hand, traditional powers such as the United States hardly manage to adopt federal legislation to mitigate climate change[12] because its citizens – and representatives (mainly Republicans but also some Democrats) – perceive it as a threat to the American way of life (see Section 2 on Status quo bias) and to their short term own political survival. Quoted in Clive Hamilton's *Requiem for Species: why we resist the truth about climate change* (2010, p.34), President Bush spokesman Ari Fleischer, when asked in 2001 if President Bush would be urging Americans to restrain their energy use, replied: "That's a big no. The President believes that it's an American way of life, and that it should be the goal of policy makers to protect the American way of life. The American way of life is a blessed one. And we have a bounty of resources

8. See *The Guardian*, http://www.guardian.co.uk/ environment/ 2011/ jul/ 05/tory-meps-reject-carbon-cut-law? INTCMP=SRCH

9. Apart from being the world's biggest CO2 emitter since 2007, the IEA revealed on July 19th that China has become the world's biggest energy user: in 2009, China consumed 2,252m tons of oil equivalent of energy from sources including coal, oil, nuclear power, natural gas and hydropower, about 4% more than the United States.

10. The State Council, in a document entitled "Decision in relation to materializing scientific development vision for the strengthening of environmental protection" describes the situation as follows: "[…] All the environmental problems associated with different stages in the process of industrialization of developed countries for more than 100 years all happened in China within the last two decades, exhibiting their own structural, compounded and compacted characteristics. […] In the forthcoming 15 years, our population will continue to grow and our GDP will double, resulting in the increase in resources and energy consumption, and the pressure on the environment will become greater and greater".

11. According to Laurence Tubiana in *Les leçons politiques de Copenhague*, there were 3 manifestations of the preference for sovereignty during the COP-15 in Copenhagen: first, the refusal to negotiate on concrete targets of emissions' reduction; second, the difficulty to negotiate on MRV rules; third, the refusal from emerging countries to accept funding against binding commitments.

12. The Democrats called off once again the effort to advance a major climate change bill on Thursday 22nd of July 2010: "[b]owing to political reality, Senator Harry Reid, the Nevada Democrat and majority leader, said the Senate would not take up legislation intended to reduce carbon emissions blamed as a cause of climate change, but would instead pursue a more limited measure focused on responding to the oil spill in the Gulf of Mexico and tightening energy efficiency standards", revealed the New York Times.

in this country." However, while the reluctance of the United States to commit to an international binding climate regime matches with its political (in)action on climate at federal level, it does not at state level: many initiatives, both regulatory and market-based, to curb GHG emissions are indeed decided within US States such as – among others – California.

1.3. Perceptions of development at individual level

This economic growth bias – I would even say obsession – is noticeable at the individual level as well. According to a 2003 deputies and senators' survey led by the political science researcher Daniel Boy, French representatives remain relatively insensitive to environmental problems: to the question "What comes to your mind right away when hearing about development?" most deputies and senators' answers (55%) were conveying traditional economic conceptions of development, as they were including notions – "growth", "fight against unemployment", "economic development" and "firm creation" – that "expressed the idea of an increase of the French industrial potential without considering its environmental consequences" (Boy, 2003). Though the awareness of multiple environmental degradations facing Humanity has increased among French national representatives since 2003, some of them stay particularly impervious to sustainable development issues such as climate change.

Similarly to the international level, search for power also happens between individuals: *egopolitics*, i.e. the careerist interests of some actors, are most likely to hamper the adoption of climate and sustainable development policies. As Jean-Claude Juncker accurately mentioned it, "within the European Union Ministers' council, we know exactly which measures are needed; the problem is that we do not know how we would be re-elected in our Parliaments after having implemented them"[13]. With this statement, the Luxembourgian Prime Minister clearly expressed the idea that the short-term political and power-seeking interests of decision-makers are inadequate to the need for long-term sustainable development policies. In France for instance, the carbon tax project was unravelled in March 2010 by intense lobbying from both industries and deputies as the regional elections approached: indeed, many high civil servants that had worked on the bill decried the lack of political courage of the same authorities that had decided to implement it in the first place – the Ministry of Ecology and the Presidency.

This logic in terms of economic growth is further corroborated by the conception of freedom linked to western democracies. Indeed, modern representation is conditioned by a particular conception of freedom (Bourg et al., 2009)[14], according to which consumption and production are considered as unlimited and as the main drivers for individual happiness. Citizens are then individually reluctant to make the slightest change that would affect their way of life: as we will develop this idea in the following section, people are strongly attached to the status quo and fear changes that would imply losses.

Therefore, an international regime on a global public good such as climate is seen as a threat to several values such as sovereignty and the western way of life, or priorities like economic growth and employment rate. Our perceptions of power, development and progress determine our attitudes towards sustainable development, the environment and climate change. Hence, the inertia of the negotiations on climate change comes from deeper disagreements on the choices of society and way of life we adopt, as well as on the perceptions of the issue itself. This is the subject of our second section.

2. CULTURAL AND PSYCHOLOGICAL PERCEPTIONS OF GLOBAL PUBLIC GOODS: THE CASE OF CLIMATE

After the 1992 Earth Summit in Rio, one of the social objectives supported by the main powers was based on climate change mitigation. Even if this objective was formally upheld by emerging powers and the United States (Voituriez, 2010), perception disparities have been compromising the adoption of international and domestic measures to tackle climate change and promote a more sustainable way of life since their inception.

2.1. Social and cultural meanings of climate

Climate can be read and interpreted through the lens of various sciences. According to physics,

---

13. Ernst Erik Ehnmark (rapporteur), Avis du Comité économique et social européen sur les « Perspectives pour la stratégie de développement durable », 5 novembre 2009 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2010:128:0018:0022:FR:PDF

14. According to Dominique Bourg, one of the main characteristics of modern representation is precisely the affirmation of the individual right of consumption. Full text available at http://www.laviedesidees.fr/Pour-une-democratie-ecologique.html

climate is "the average course or condition of the weather at a place usually over a period of years as exhibited by temperature, wind velocity and precipitation"[15]. The World Meteorological Organization (WMO) has then classified climate into 5 categories: tropical rain forest; hot desert flora; temperate deciduous forest; boreal forest and tundra. According to economics, climate is one of the rare – if not unique – global public goods, in a sense that averting the risk of global climate change by adopting an international agreement would secure inter-generational as well as geographically widespread benefits, although people in various parts of the world might benefit in different ways (Kaul et al., 1999)[16].

However, both physic and economic definitions remain limited as they neglect the social and cultural construction of climate, and of global public goods in a larger extent. Indeed, at collective level, climate carries cultural interpretations, partly because it is an abstract notion that "cannot be experienced directly through our senses" (Hulme, 2009). As Mike Hulme expresses it in the simplest and most accurate manner, "the climate of the Sahara means something quite different to a Bedouin than it does to a Berliner". Climate is therefore a collective imaginary, an idea constructed according to cultural values and practices, linked to memory, behaviour and identity. For instance, the climatic phenomenon El Niño finds its origins in a cultural reading of climate: named by Roman Catholic Peruvian fishermen in the 19th Century to define a warm Pacific stream, El Niño usually appears around Christmas time to water the arid coastal deserts of Ecuador and Peru. Therefore, "the climatic phenomenon became identified with the character of Jesus Christ, a natural blessing associated with the Saviour of the World" (Hulme, 2009).

Similarly, the Western conception of climate – and of the wider physical environment – reveals such cultural construction. Indeed, since the post-Enlightenment, the Western belief system has viewed humanity and its environment as essentially separate. Connection with Nature varies across cultures, but in the case of the Western world, a Wesley Schultz and colleagues research carried out in the United States, Western European countries, and Central and South American countries

concludes that "in essence, respondents from the United States and Western Europe tend to be less *biospheric* and more egoistic in their approach to environmental issues"[17]. With deep origins in history and religion[18], Human's disconnection from Nature has fostered a view of our environment as a resource to be exploited for the material benefit of human beings, a view which has clearly paved the way for the development strategies followed by modern societies. The framing of the climate problem itself as an "externality" or a "market failure" attests of such way of understanding the relationship of human beings with Nature (Hamilton, 2010). Therefore, such lack of appreciation of the extent to which humanity and its environment are linked has acted to diminish the perceived importance of the environmental consequences of human activity (Heyd et al., 2009), and to undermine the efforts towards the adoption of climate change mitigation policies.

The social and cultural construction of climate, as well as its abstract dimension, implies that the policies considered to tackle climate change are also socially constructed. The same phenomenon happens to a larger extent with sustainable development, which content is vague and thus interpreted differently.

2.2. Psychological perceptions of a changing climate

A changing climate represents also a risk which comprises psychological dimensions. As an uncertain risk – i.e. though no probability law exists, a scientific debate is engaged on the magnitude of the risk and its distribution over space and time –, climate change gives way to a large spectrum of interpretations, risk becoming hence a subjective construct. This reminds us with Amos Tversky and Daniel Kahneman's "Cognitive bias" theory which proved that human judgements and decisions differ from rational choice theory. Risk assessment

15. This is the definition of the World Meteorological Organization, available at http://www.wmo.int/pages/index_en.html

16. According to Inge Kaul, Isabelle Grunberg and Marc A. Stern in *Global public goods: international cooperation in the 21st Century* (1999), global public goods are "goods whose benefits reach across borders, generations and population groups".

17. The question was the following: "People around the world are generally concerned about environmental problems because of the consequences that result from harming nature. However, people differ in the consequences that concern them the most. Please rate each of the following items from 1 (not important) to 7 (supreme importance) in response to the question, I am concern about environmental problems because of the consequences for ___." Participants were then asked to rate a series of items, some of which were egoistic (my health, my prosperity, my lifestyle), altruistic (future generations, humanity, children), or biospheric (plants, animals, birds).

18. For instance, the Christian interpretation of the Bible conceives God as prior and external to nature: he precedes it and will survive it. And God created Humans in his image…

is therefore not necessarily based on a decision involving cost-benefit analysis as it introduces several "error[s] in decision-making or behaviour adopted under a situation of uncertainty, due to information-processing shortcuts, motivational factors and social influence" (Tversky, Kahneman, 1972). Amos Tversky and Daniel Kahneman identified four types of cognitive bias leading to dissimilar perceptions of climate change and to inertia in the adoption of sustainable development and climate change mitigation policies.

The first one is "biased assimilation" or "cognitive dissonance"[19], which conveys the idea that people – and so decision-makers – process information and embrace evidence only if it proves to be consistent with their existing beliefs about the world. On climate change, cognitive dissonance results in a denial of its scientific reality, while biased assimilation results in variations of our estimate of its degree and impacts: we will believe climate change is happening, or focus on the lower or higher part of the model predictions depending on whether it supports our way of life and world conception. According to Jeffrey J. Rachlinski in *The psychology of global climate change*, "global climate change is a somewhat intangible harm that requires a belief in scientific theory to understand"; this gives a fertile ground to biased assimilation which allows scepticism to remain strong among some people (Rachlinski, 2000). As the scientific evidence confirming human-induced climate change has become overwhelming, deniers, instead of rationally adjusting their beliefs to accommodate the facts – Clive Hamilton (2010) argues – "have become more vehement in their attacks on climate scientists and have developed different ways of explaining away the facts: scientists have distorted their results to obtain more research funding; other scientists in possession of the truth have been silenced; governments have caved in to pressure from environmentalists who are hell-bent on destroying the free-market system". As a consequence, biased assimilation and cognitive dissonance processes hamper the promulgation of regulations or the levitation of taxes on carbon emissions. Rachlinski concludes that "rather than lead to a more temperate response to a potential catastrophe, the conflicting scientific evidence on climate change will likely stifle society's response".

Furthermore, according to the "status quo bias", people are deeply attached to the status quo and fear potential changes which may imply losses. As

subjects treat the advantage they already possess as more valuable than the one they do not, the status quo bias makes it difficult for society to undertake reforms to promote sustainable modes of production and consumption or to tackle climate change.

The third cognitive bias – "risky choices in the face of losses" – expresses the idea that "people are more willing to gamble to avoid a loss than to obtain a benefit" (Tversky, Kahneman, 1972). As the choices about preventive measures to reduce the risks of climate change are made from the perspective of economic losses in international negotiations, society will be willing to endure much riskier options than it should, i.e. refusing to accept the losses required to reduce fossil fuel consumption and incur a greater risk of more severe climatological consequences, since people are generally averse to incurring a certain loss (Rachlinski, 2000).

Finally, people – and decision-makers – suffer from an "optimistic bias", which allows them to think they are in control when facing uncertain risks. According to the optimistic bias, "individuals appear to have a low estimate of the probability of an occurrence of the negative outcomes of risks affecting the self" (Löfstedt et al., 1997). As a result, individuals tend to have a high estimate of their capacity to control a potential hazard: the "illusion of control" may then seriously hinder the efforts undertaken to promote risk-reducing behaviours and policies. Indeed, decision-makers' failure to react to the fact that our path of development bears high environmental and technological risks by adopting sustainable development and climate change mitigation policies attests of the salience of the optimistic and illusion of control biases.

In short, both international and domestic unwillingness to undertake serious precautions to prevent global climate change reveals the influence of psychological processes deeply anchored in people's subconscious. It is then no surprise the international community is ultimately unable to settle upon a means of assuming ambitious measures that the threat of global climate change suggests should be taken. The next section seeks to examine the complex interactions between science and politics in the framework of the definition of an international regime on climate change, and their consequences in terms of inertia.

3. SCIENCE AND POLITICS: PERMEABLE FRONTIER, MULTIPLE PERCEPTIONS

Since the 1992 Rio Earth Summit, consensual knowledge on climate change – consensual knowledge is defined by Ernst Haas as "a body of beliefs

19. Biased assimilation and cognitive dissonance are similar in terms of the nature of their psychological effects, though I would argue that cognitive dissonance is a more radical form of biased assimilation.

about cause-effect and ends-means relationships among variables (activities, aspirations, values, demands) that is widely accepted by the relevant actors, irrespective of the absolute or final 'truth' of these beliefs"[20] – is organized around the United Nations' administration, embodied by a scientific organization: the Intergovernmental Panel on Climate Change (IPCC).

Jointly established by the United Nations Environmental Programme (UNEP) and the WMO, the IPCC aims at assessing scientific information related to climate change, evaluating the environmental and socio-economic consequences of climate change, and formulating realistic response strategies[21]. With its Fourth Assessment Report (AR4) published in 2007, the IPCC members established a scientific consensus on the anthropogenic dimension of climate change, as well as they indicated, according to climate model projections, that the global surface temperature was likely to rise between 1.1 and 6.4°C during the 21st Century. On the basis of such scenarios, their respective consequences – i.e. sea level rise, changed precipitation patterns, subtropical deserts expansion, changes in the frequency and intensity of extreme weather events, species extinction, etc. – and IPCC's recommendations, the European Union defined in 1996[22] that the rise in global surface temperature should be limited to 2°C to avoid devastating climate change.

However, the redistribution of power on the international arena, with its consequences in terms of the redefinition of 1992 social objectives, also entails a questioning – or in some cases a more assertive dissent – of IPCC's scientific consensus on climate change. Indeed, the body of beliefs about cause-effect relationships – human activities are mostly responsible for the acceleration of climate change – is not entirely accepted by the relevant actors. In this section, we will therefore try to understand how and why the IPCC's scientific consensus has been increasingly contested over the past few years, particularly after UNFCCC's COP-15 in Copenhagen.

3.1. The rise of climate scepticism

First of all, the end of the 20th Century has seen the recognition of the idea that every scientific hypothesis is respectable: indeed, intellectual and scientific circles have acknowledged that everybody has an equally right to express his own scientific opinion, whether they belong to the climate scientific community or not. This situation is mostly due to socio-political factors such as a distrust climate in the scientific institution and a questioning of science authority, as well as to the complex and thus vulnerable nature of the science on climate change. In this context, it is no wonder that we assist to the blossoming of movements aiming at refuting its scientific consensus: as the evidence of the anthropogenic influence on the changes of climate became more important, climate scepticism, driven by a group of high-level scientists with extensive political connections, has risen to generate uncertainty and manipulate the public debate in order to advance a political and economic agenda (Oreskes, Conway, 2010). The equal audience granted by the media to climate scientists and sceptics is an accurate illustration of the phenomenon previously described, and partakes of the relay of sceptic voices. Indeed, balance has long been a journalistic practice, as the journalist deontology requires reporters who write about a controversy to present competing points of view. Such fairness is not problematic when the issue is of a political or social nature. However, as Jules and Maxwell Boykoff argue in "Balance as bias: Global Warming and the US prestige press", "[…] this canon causes problems when it is applied to issues of science. It seems to demand that journalists present competing points of view on a scientific question as though they had equal scientific weight, when actually they do not". Apart from claiming equality of treatment in the media and education, climate sceptics also mobilize other democratic ideals such as liberty: they consider the IPCC as being a totalitarian institution threatening liberty by stifling public debate – sceptics feel systematically excluded from accessing to publication and data (Godard, 2010). Therefore, in the face of the "inconvenient truth" that represents an anthropogenic climate change, decision-makers rather lean towards climate sceptics' comforting theory than take responsibility for their actions: in fact, deconstruction of scientific knowledge has undeniably become a marked feature in policy related discourses and medias.

3.2. IPCC's knowledge production: a Northern intellectual supremacy?

Secondly, scientific knowledge is never perceived as either independent or neutral: in fact, Myanna Lahsen (2007) tells us in "Trust through participation? Problems of knowledge in decision-making" that "scientific interpretations are inextricably

---

20. This definition is from Ernst Haas' guidelines for a panel at the American Political Science Association meeting in Chicago, September 1983.

21. See IPCC's website at http://www.ipcc.ch/

22. European Council meeting #1939, Luxembourg, 25th of June 1996.

interwoven with politics and particularities of perspective". Science is thus a social process, which entails that cultural, political and belief factors influence the production of scientific knowledge. One of the characteristics of IPCC's members being their origin from both scientific and political spheres, the already contested IPCC's scientific consensus might be even more questioned as its elaboration might have been influenced by developed countries in order to satisfy their political interests. As the boundary between science and politics becomes tenuous, IPCC's science authority might be increasingly undermined[23]. Emerging powers' decision-makers' suspicion and distrust of the process of formation of climate scientific knowledge make the negotiations on a climate international regime difficult (Lahsen, 2007). An empirical study by Frank Biermann confirmed this mistrust feeling towards the knowledge produced by transnational expert networks. His interviews revealed "wariness of prejudice in the framing of assessments", "great suspicion" of the IPCC and perceptions of it "as a 'political-scientific' institution with little transparency and inherent Northern intellectual supremacy" (Biermann, 2000, 2002). Besides, such feeling might not be unfounded as Milind Kandlikar and Ambuj Sagar reveal in "Climate change research and analysis in India" that IPCC's capacities of scientific knowledge production show a North-South divide (Kandlikar, Sagar, 1999). This scientific knowledge divide comprises, among others[24], a participation gap: within the IPCC, developing countries scientists made up a total of 17.5 percent of the scientists producing and reviewing the IPCC's third assessment report involved, with developed countries scientists making up the difference with 82.5 percent (Lahsen, 2007). Therefore, global inequity in States' abilities to produce science

and direct research agendas has given rise to "an international climate change research enterprise that, when viewed from a southern perspective, does not live up to its global label; an enterprise in which, despite its apparent transnational dimensions, remains headquartered in the North, comprised primarily of researchers in the North, dominated by northern interests and agendas, and shaped by northern perspectives" (Kandlikar, Sagar, 1999). Climate science is then perceived by developing countries as a continuation of politics by other means, supporting developed countries' geopolitical interests, a situation that hinders the adoption of an international agreement to tackle global warming.

3.3. Distribution of climate change impacts: from scientific uncertainty to politically-motivated assessments

Finally, the scientific assessment of the distribution of impacts – i.e. cost of inaction – is either weak or politically motivated. First of all, estimating the economic impacts of climate change is complex because its regional physical impacts are still uncertain: indeed, the IPCC does not provide decision-makers with a measure that could assess the distribution of impacts but states in its Second Assessment Report (SAR, 1995) that "[…] quantitative projections of the impacts of climate change on any particular system at any particular location are difficult because regional-scale climate change predictions are uncertain; our current understanding of many critical processes is limited; and systems are subject to multiple climatic and non-climatic stresses, the interactions of which are not always linear or additive"[25]. Likewise, twelve years later, the IPCC's AR4 reveals similar key uncertainties on impacts, such as the strong scenario- and model-dependency of the projections of climate change and its impacts beyond 2050; and the limitation of impacts research by uncertainties surrounding regional projections of climate change[26]. Secondly, there is no widely accepted methodology of calculating mitigation costs, as their estimates "depend on assumptions about future socio-economic growth, technological change and consumption patterns"[27]. Thirdly, although the Stern Review (2006) is

---

23. Other authors argue that governments were not entirely successful in their effort to divert the scientific community, as government designation of scientists appears to have had no noticeable effect on the output of the scientific working groups (I and II) because of the large number of scientists involved, the voluminous background of peer-reviewed scientific literature, the extensive peer-review process that follows, and the large number of nongovernment agency scientists involved (Houghton, Jenkins, and Ephraums, 1990; Tegart, Sheldon, and Griffiths, 1990; WMO, UNEP, 1990).

24. Milind Kandlikar and Ambuj Sagar identified five gaps: a resource gap (availability of human and material resources); a relevance gap (relevancy of existing research to issues faced by different countries and regions in the world); a participation gap (participation levels and input countries have in international scientific programs and processes); a perception gap (perception of the role and dynamics of research, analysis and assessment processes); and a policy-culture gap (ability and approach to connect science and policy).

25. See IPCC's SAR at http://www.ipcc.ch/pdf/climate-changes-1995/ipcc-2nd-assessment/2nd-assessment-en.pdf

26. See IPCC's AR4 at http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf

27. Ibid. 25

the first broadly recognized report that provides decision-makers with an estimate of the aggregated impacts of global warming on the world economy if countries keep following business-as-usual (BAU) scenarios, its assessment models fail to take into account the distributional aspect of such impacts across countries[28]. As a result of this lack of knowledge[29], every Party to the UNFCCC develops its own perception of the impacts issue and shapes it to suit its own interests; this situation either hinders the negotiating process or leads to a reduced agreement such as the Accord reached at Copenhagen in December 2009[30].

Uncertainties surrounding the science of climate change make it easily permeable to politically motivated and mathematical jugglery, which further erodes the efforts of cooperation on this global common dilemma. The next section will reveal that the norms, rules and principles defined in 1992 to frame the cooperation between States are equally malleable and contested.

4. RIO'S SUSTAINABLE DEVELOPMENT GOVERNANCE ARCHITECTURE: FRAGMENTATION AND MALLEABILITY

The climate regime defined in 1992 is based on several rules, norms and principles – the Common but Differentiated Responsibility principle (CBDR) and the Precautionary Principle (PP) – and framed by a legally-binding convention, the UNFCCC[31].

However, the redistribution of power induced by globalization resulted in an increasing questioning of the multilateral Rio governance system. The failure in reaching an ambitious agreement at the 15th Conference of Parties to the UNFCCC in Copenhagen is a convincing testimony of this situation: indeed, the Accord reached at the Conference – and of which the Parties only "took note" – clearly shows a return to unilateralism, as the agreement merely consists of a juxtaposition of national and unilateral objectives (Guérin, 2010). In this section, we will focus on proving that the inertia specific to international negotiations on climate change arises from divergent conceptions of governance and distinct interpretations of its principles.

## 4.1. Climate governance: a cultural and institutional fragmentation.

Deriving from the Greek word for navigating, governance is "the overall system of often overlapping, not always coordinated and at times conflicting institutions, norms and decision-making procedures" framing cooperation between States (Biermann, 2010).

Governance may be shaped differently depending on whether climate change is perceived as a security issue, a social justice issue or an economic issue. The different governance options arisen from these perceptions are scrutinized through Mary Douglas' Cultural Theory (1982), according to which environmental risks such as climate change generate four types of behaviour: hierarchism, egalitarianism, individualism and fatalism[32]. Each behaviour or way of life originates from a different

---

28. The Stern Review estimates "the total cost of BAU climate change to equate to an average reduction in global per-capita consumption of 5%, at a minimum, now and forever". However, if the Integrated Assessment Model were also to "reflect the importance of the disproportionate burden of climate change impacts on poor regions of the world, the cost would be higher still." (Part II, Chapter 6).

29. See AWG-LCA's session reports at http://unfccc.int/resource/docs/2009/awglca5/eng/crp01.pdf and http://unfccc.int/resource/docs/2009/awglca8/eng/l07a07.pdf

30. This paper was written in July 2010, after Copenhagen but before Cancún. While Copenhagen has indeed been a relevant evidence of a serious multilateral cooperation setback, the outcomes of COP-16 in Cancún showed that international cooperation is still achievable: the Cancún negotiations resulted in the adoption of a green climate fund for adaptation of developing countries to climate change, and of a system of incentives to prevent the destruction of tropical rainforests (UNFCCC, 2011).

31. Apart from the UNFCCC, the 108 governments present at the United Nations Conference on Environment and Development (UNCED) agreed on a legally-binding convention on biodiversity – the United Nations Convention on Biological Diversity (UNCBD) – and adopted three major agreements: the Rio Declaration on Environment and Development which gathers a set of principles defining the rights and responsibilities of

States; the Agenda 21, a global programme of action containing detailed proposals for action in social, economic and environmental areas; and the Statement of Forest Principles which consists of a series of non-legally binding principles aiming to sustainably manage the World's forests. The International Convention to Combat Desertification (UNCDD) is another outcome of the Rio Summit: however, although it entered into force in 1996, it remains a "dead born agreement" as its degree of implementation is extremely weak (the UNCDD faces multiple hurdles, i.e. inadequate financing; weak scientific basis; low political recognition and mainstreaming; lack of understanding of the impacts of land degradation; flaws in its institutional framework).

32. This fourth behaviour will not be treated in this paper as fatalists (i) are excluded or see themselves as excluded from any organization or social life; (ii) see climate as a lottery; and (iii) think the outcomes of climate change are a function of chance. Such fatalist perception is unable to foment any governance structure: indeed, "[fatalists] see no sense in society trying to 'learn' about how to mitigate and/or adapt to climate change because, ultimately, it is hopeless" (O'Riordan et al., 1999).

Figure 1. The four "ways of life" derived from Cultural Theory
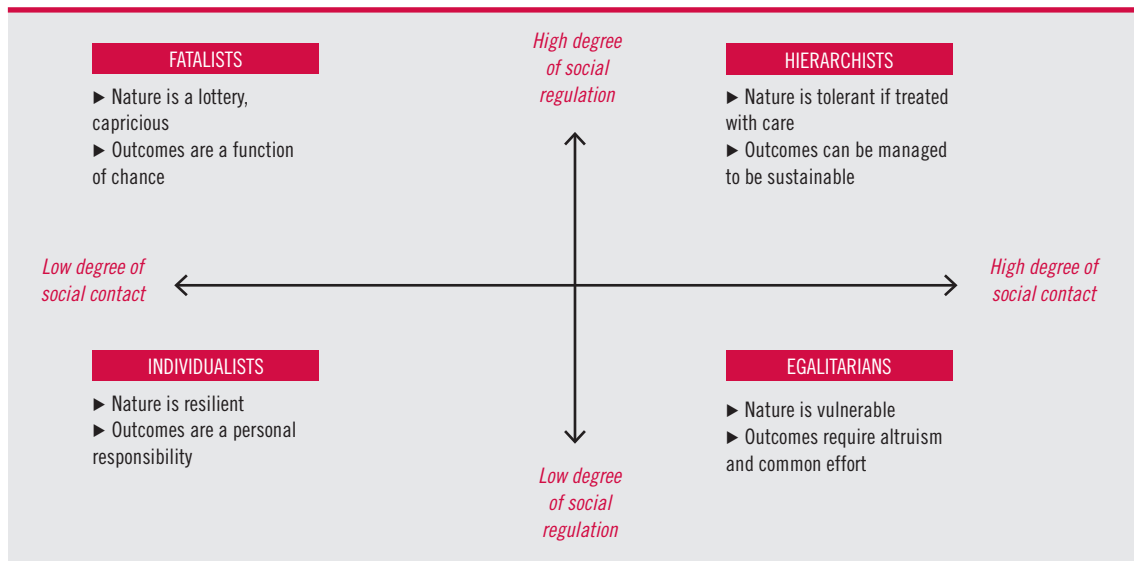
Source: T. O'Riordan and A. Jordan, "Institutions, climate change and cultural theory: towards a common analytical framework", Global Environmental Change, vol.9, n°2, 1999, pp.81-93

interpretation of the world and is associated with a separate set of justifications for undertaking a given course of action (O'Riordan et al., 1999).

Thereby, when comprehended as a security issue, climate change governance is characterized by a centralized, bureaucratized multilateral top-down system, in which the State remains the principal actor of the governance arrangements, and in which the emissions' reductions are legally binding. In terms of Cultural Theory, "green governmentality" (Bäckstrand, 2008) – with the 1992 sustainable development regime being its main illustration – "sits very easily with a hierarchist way of life": indeed, hierarchism is featured by order, control and a strong social structure of rank and role, with social interaction governed by multiple sets of rules (Hulme, 2009).

When climate change is viewed as a social justice issue, governance is based on a bottom-up system relying on transnational civil society as the main actor – embodied in businesses, minority groups, local authorities, etc. – and on voluntary instruments regulating emissions. "Civic environmentalism" (Bäckstrand, 2008) places participation, fairness and equity at its core and thus matches with an egalitarian behaviour, which, in opposition to hierarchists, places everyone as fundamentally equal, with social bonding regulated by voluntary associations with few regulatory measures.

Finally, when climate change is perceived as an economic issue, governance is market-based: the responsibility shifts from State actors, with command-and-control measures, to market traders and their financial instruments – payments for ecosystem services such as REDD and voluntary carbon offsets[33]. Through the lens of Cultural Theory, "market environmentalism" (Bäckstrand, 2008) corresponds to an individualist way of life that favours self-regulation and the free market economy: indeed, individualists see little purpose in structuring social relationships around conventions or rules and prefer voluntary arrangements brokered by prices and markets (O'Riordan et al., 1999). While hierarchists and egalitarians have a preference for multilateral interventions – "the outcomes require sustainable and common efforts" – whether those may be regulated by state or non-state actors, the action of individualists rather tends to be unilateral, as the "outcomes are a personal responsibility" (see Figure 1).

Empirically, climate governance at global level is currently being subjected to an increasing fragmentation process, marked by a plethora of institutions (political such as the UNEP, the United Nations Development Program, the Commission on Sustainable Development; and financial, such as the Global Environment Facility, the World Bank, the Adaptation Fund, the Climate Investment Funds and the Green Climate Fund), policies (i.e. the European Union Emissions Trading System, the target-and-timetables approach of the Kyoto

33. We argue that carbon trading systems are not part of a market-based governance. Indeed, although the emissions reduction target is reached through the market, the State remains the main actor at the inception of the implementation of such market-based instruments (i.e. the European Union Emissions Trading System).

Protocol, the voluntary Asia-Pacific Partnership on Clean Development and Climate, and independent initiatives taken by US States) and actors (i.e. governments, civil society, science and business). Such mosaic of institutions, policies and actors is not always effectively related to the overarching UN climate regime. Both Nation States and international organizations fuel such fragmentation and lack of coordination, thus undermining the achievement of a global cooperation regime on climate.

First, encouraging institutional overlaps and fragmentation gives powerful States greater strategic latitude on the international arena. Indeed, as Frank Biermann (2009) argues, "[c]ooperation theory assumes that bilateral and small and numerous agreements grant more bargaining power to larger and more influential countries, while large agreements allow smaller countries to enter into coalitions". Thus, institutional inflation allows some countries to satisfy particular interests: the numerous multilateral partnerships on climate and energy "largely focus on the interests of the participating industrialized or newly industrialized countries", while excluding least developed countries and small island states and side-lining their preferences (Biermann, 2010). Fragmentation also enables Nation States to circumvent the UN system and maintain direct control: for instance, creating the IPCC allowed governments to better control the political consequences of climate change scientific discussions, instead of entrusting other international institutions, such as UNEP and WMO, with the supervision of the process, the selection of experts and the diffusion of their conclusions (Haas, McCabe, 2001). IPCC experts are indeed designated by governments, and the major bureau positions, particularly in Working Group III on policy, are high-level foreign ministry officials (Fitzgerald, 19990).

Second, fragmentation produces a lack of coordination between fields of action and rules. Deeply rival, international organizations stimulate and aggravate such lack of coordination: indeed, each institution seeks to ensure its internal cohesion, protect its mandate and field of action, and maximise its access to financial, political or informational resources, and has therefore no interest in facilitating coordination and efficiency (Le Prestre, 2005). Institutional fragmentation also induces a regulatory lack of coordination: for instance, unlike the UN climate convention or the Kyoto Protocol, the Asia-Pacific Partnership on Clean Development and Climate (AP6) does not differentiate between responsibilities of State parties[34].

Therefore, because actors receive different signals, such lack of coordination not only undermines the effectiveness of current climate governance by reducing compliance incentives for the parties of the Kyoto Protocol, but also diminishes the motivation to agree on a post-2012 climate regime.

4.2. The climate regime principles: from legal flexibility to political dispute.

As well as its cultural and institutional fragmentation process, the legal malleability of the principles adopted at the 1992 Earth Summit hampers the negotiation course towards a post-2012 agreement on climate change.

The Common but Differentiated Responsibility (CBDR) principle is one of the cornerstones of the climate regime adopted in Rio. Based on equity and justice considerations, the principle 7 of the Rio Declaration proclaims that "[…]. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit to sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command"[35]. The CBDR principle is innovative as it seeks to evaluate responsibility for the remediation or mitigation of environmental degradation according to both historical contribution to a given environmental problem and present capabilities: regarding climate, the Kyoto Protocol demonstrated the applicability of the CBDR principle by excluding the non-Annex I countries – mainly developing countries – from binding emissions reduction obligations.

Nevertheless, the CBDR principle's content and legal implications are not established beyond dispute: according to Tuula Honkonen in *The Common but Differentiated Principle in multilateral environmental agreements: regulatory and policy*

---

34. Under the Kyoto Protocol's Clean Development Mechanism, only the Parties not included in Annex I

can benefit from project activities (Article 12 of the Kyoto Protocol). Though the Charter of the Asia-Pacific Partnership on Clean Development and Climate (AP6) "bear[s] in mind that the purposes of the Partnership are consistent with the principles of the United Nations Framework Convention on Climate Change […] and are intended to complement but not replace the Kyoto Protocol", such differentiation between responsibilities of State parties is nowhere mentioned. See the Charter of the APP on Clean Development and Climate at http://www.asiapacificpartnership.org/pdf/resources/charter.pdf

35. See the Rio Declaration on Environment and Development at http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163

aspects, "the CBDR principle could be described as being plagued with controversies. Open questions include, for instance, whether the CBDR principle is only morally binding on States; to what extent it allows developing countries to be exempted from strict limitations on their emissions; and on which basis countries are categorized for differential treatment". As a result, this situation "makes it difficult to show that there is the necessary *opinio juris* [i.e. legal obligation]" (Honkonen, 2009). Therefore, rather than being legally binding, the CBDR principle only guides international cooperation. Furthermore, the lack of precision of the CBDR principle's content and legal implications implies that its interpretation varies according to the interests of developed and developing countries. In this regard, both groups of countries tend to emphasize different elements of the CBDR principle[36] and use it to suit their own – often self-interested – purposes: while developing countries defend their right to economic development (differentiated responsibilities), developed countries ask for a larger participation of all key emitters, be they developed or developing countries, in the global effort to curb climate change (common responsibilities). The malleability of the CBDR principle allows States to adjust their conception of justice and equity to their own short-term priorities, which in turn hinders international cooperation on global environmental issues.

The Precautionary Principle (PP) has emerged as a guiding principle in policies related to environmental risk. Incorporated in the Rio Declaration through its Principle 15[37], it constitutes the other keystone of the sustainable development regime. Since 1992, the PP has gained large influence in environmental politics at both international and domestic levels: in the case of the European Union, the PP became an official guide to its environmental policy and has been invoked by EU representatives to limit the import of beef fed with genetically modified corn or growth hormones at the end of the 1990s[38].

Yet, exact definitions of the PP remain elusive, and similarly to the CBDR principle, the PP's ambiguous meaning and legal framework raises controversies and leads to a diversity of interpretations. Indeed, close examination of Principle 15 reveals that: first, the precautionary approach is not directly mentioned; second, the PP lacks precision with regard to the extent to which this approach should be applied by States, and with respect to the way of determining the degree of seriousness of the threat (Tisdell, 2009). As a result, States have been granting the PP with varying legal values: in domestic law, the PP can either be jurisprudential, legislative or constitutional (Godard, 2001). For instance, the PP was incorporated to the French Constitution in 2005 to provide decision-makers with a tool for risk management. The Charter for the Environment defines the PP as a behaviour principle that should be invoked "[w]hen the occurrence of any damage, albeit unpredictable in the current state of scientific knowledge, may seriously and irreversibly harm the environment"[39]. The Constitution also states that in case of scientific uncertainty, "public authorities shall, with due respect for the principle of precaution and the areas within their jurisdiction, ensure the implementation of procedures for risk assessment and the adoption of temporary measures commensurate with the risk involved in order to deal with the occurrence of such damage"[40]. Therefore, according to the Charter for the Environment, public authorities are the only responsible for taking action; yet, the only condition needed to invoke the PP is based on a subjective assessment of the potential harmful effects of a risk. As we have already examined it in the second section of this paper, risk assessment is subject to multiple cognitive biases that may lessen the perception of the seriousness of such risk and thus distort the policy-making process.

Even though the PP has been embraced by European law, it remains strongly contested outside the Union's borders. The United States does not consider the PP as being a principle of international law. Though some laws have a precautionary dimension, the PP is not expressly mentioned in US policies. What's more, in cases involving

36. Being an oxymoron, States may emphasize on whether "common" or "differentiated".

37. "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation", see the Rio Declaration on Environment and Development at http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163

38. In 2000, an international agreement was adopted by the Parties to the Convention on Biological Biodiversity to regulate the use of living modified organisms. In accordance with the precautionary approach contained in

Principle 15 of the Rio Declaration, the Cartagena Protocol aims to "ensure the safe handling, transport and use of living modified organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health". See the Cartagena Protocol at http://bch.cbd.int/protocol/

39. See the Charter for the Environment at http://www.assemblee-nationale.fr/english/8ab.asp

40. Ibid. 31

trade legislation, the US government is actively lobbying against precautionary actions taken by other countries, as it suspects the PP of being a disguise for trade protectionism. In fact, the opposition between the European Union and the United States on the PP conveys a deeper antagonism with respect to their attitudes towards risks: while the European Union focuses on the options and solutions to avoid a potential harmful product or activity, the United States debate on the reasonable level of such harm (Vecchione, 2011). By virtue of limiting the nature or extent of economic activities, the PP can be seen as being in tension with the right to development and has raised various concerns among developing countries as well, which have been expressed in arenas such as the World Trade Organization (WTO). Indeed, developing countries fear the PP may halt technical innovation, impact negatively their exports volume and in turn increase transaction costs and curb socio-economic development (Cooney, 2004). Among the WTO for instance, developing countries have opposed the implementation of the PP because they perceive it could be used by the North to impose its own environmental agenda and push into

the background other priorities such as poverty reduction[41].

In short, globalization has induced a double process of cultural and institutional fragmentation which has shattered the traditional top-down approach of governance embodied by the sustainable development regime. The principles framing such a regime has also been questioned: the legal malleability of the CBDR principle and the PP has allowed stakeholders to interfere in their definition and has given rise to different interpretations, each of them including particular interests and therefore undermining cooperation.

---

41. This tension between poverty reduction and environmental protection has been accentuated since the adoption of the Paris Declaration on aid effectiveness, which affirms the principle of developing countries' ownership on their development strategies. According to this principle, donors ought to align their priorities with those of beneficiary countries. However, most Poverty Reduction Strategies exclude de facto the preservation of natural capital: indeed, the environment has funding in 8 out of 36 sub-Saharan countries and represents 0.65% of total European funding (Pierre Jacquet, Jean-Marc Bellot, Denis Loyer, "Sustainable development in European Cooperation Policy", French Development Agency, 2008). Therefore, the ownership principle hampers the implementation of sustainable development policies in developing countries.

5. ABSTRACT: IMPLICATIONS FOR RESEARCH / POLICY-MAKING

CONFLICT >		POWER LEVERS	BELIEFS	RISK (fears)	KNOWLEDGE	GOVERNANCE (institutions and instruments)
Hypothesis		*Sustainable development is not yet considered as a lever for changing the state of power relations.*	*The modern disconnection between Nature and Culture limits the attainment of an integrated vision of SD.*	*Under uncertainty, risk and evidence are subjectively processed in accordance with existing beliefs about the world, which determine (in)action.*	*Remaining uncertainties and scientific relativism have spread controversy over SD knowledge and hindered decision.*	*Intrinsically fragmented and lacking juridical basis, SD governance is shaped in accordance with particular interests.*
Conflict channels / indicators	At international level	International negotiations deadlock on climate to perpetuate actual power relations	Conflicting attitudes towards responsibility to Nature and to others	Conflicting attitudes towards precaution	Conflicting attitudes towards international scientific institutions and consensus	Conflicting attitudes towards the role of international institutions and principles in SD governance
	At national level	Limited achievements of SD domestic policies due to imbalance between pillars	Divergent decision-makers' attitudes towards SD due to the influence of corporatist or professional systems of thought	Decision-makers' preferences to keep with status quo to secure their political survival	Lack of influence of experts' knowledge and argument on decision	Divergent decision-makers' attitudes towards the function of market-based instruments in climate regulation

Source: Author

CONCLUSIONS

"The Earth is one, but the world is not", once said former Prime Minister of Norway Gro Harlem Brundtland. Her phrase could perfectly sum up the complex machinery of the decision-making process on sustainable development and climate change, at both international and domestic levels. As emphasized in this paper, the decision-making process on these issues is hampered in several ways. First, the failure of Rio's sustainable development regime and the redistribution of power on the international arena brought to light the rooting of powerful and subconscious biases undermining policy action on sustainable development and climate change; biases according to which: (i) development and therefore power can only be achieved through economic growth, and (ii) economic growth can hardly be decoupled from emissions' growth. Second, the inertia characterizing the decision-making process on sustainable development and climate change originates in differences of perceptions of the issue itself. Finally, the shattering of the sustainable development regime by globalization highlighted its imperfections – permeability of science to politics, legal malleability of Rio's principles, and governance fragmentation – and gave way to the expression and domination of particular interests over general purposes.

The Copenhagen conference's meagre outcomes prove that the evolution of power distribution since the 1992 UNCED have considerably affected the negotiators' ability to sustain the consensus that stemmed from Rio's conference. The actual state of international climate negotiations[42] and governments' step-backs on national policies' commitments[43] are ominous developments. What's more, even if the international community agreed on a binding and sanctioning international regime to stabilise the greenhouse gas concentrations in the atmosphere at 450 parts per million (ppm), it would anyway be, quoting the expression of James Hansen, "a recipe for global disaster", as most leading climate scientists now believe that 2°C of warming would already directly impact the Earth's climate systems and trigger irreversible changes, posing in that way significant risk to the preservation of a planet fit for the Human species.

We therefore have to admit that climate change generates a failure of modern politics: in the face of one of the greatest threats of the century(ies) to come, elected governments have clearly proved to be unable to represent the interests of the majority. A situation which leads us to the following interrogation: are modern democracies able to act and prevent, or are they solely able to react and heal? Isn't it only after the tragedy of World War 2 and the Holocaust that the United Nations adopted the Universal Declaration of Human Rights and that the French government created its Social Security regime which aimed at ensuring all citizens against the risks of life, i.e. illness, unemployment and old-age? More recently, isn't it after Fukushima's nuclear accident that Germany decided to abandon nuclear power and expand the use of renewable resources? The forthcoming reality of a +2.4°C to +4.6°C world, according to IPCC's different scenarios, would prompt us to think that History is inevitably Hegelian, i.e. constantly conflicting and in which Humanity's progress is only achieved through tremendous emotional shocks. Future political prospects, in particular the United Nations Conference on Sustainable Development (UNCSD) to be held in Rio de Janeiro next June, are unfortunately unpromising.

Now, how could democracies address this climate deadlock? Three instruments of governance should be focused on and structure future public action. At national level, multi-actors governance should be broadened. Taking shape of working groups and roundtables, these forms of multi-actor deliberative processes pacify as well as lighten traditional policy-making by bringing to the foreground conflicting positions, by discussing these and therefore drawing a consensus prior to the legislative process. Also, planning should be reintroduced to empower democracies to tackle medium or long-term public action issues: planning practices should be reinvented so that, without bridling the market, stakeholders are provided with the necessary information and previsions to adjust their behaviours towards decarbonised ones[44]. At international level, the innovating instrument of platforms of sharing and learning from regional, national or local experiences should be widened to improve mutual comprehension. As mutual comprehension is often the first step towards enhanced confidence and effective cooperation. ▌

---

42. Unfortunately, the perspectives of reaching a binding agreement at COP-17 in Durban next December are poor.

43. See for example the bill on carbon taxation in France: after committing to its adoption in October 2007, the French government backed down in March 2010.

44. For instance, the State budget affected to certain environmental measures could be multiyear.

BIBLIOGRAPHY

APP (Asia-Pacific Partnership on Clean Development Mechanism), Charter, http://www.asiapacificpartnership. org/pdf/resources/charter.pdf

AWG-LCA (Ad-Hoc Working Group on Long-Term Cooperative Action under the Convention), *Workshop on economic and social consequences of response measures*, Fifth session, Bonn, March-April 2009, http://unfccc.int/ resource/docs/2009/awglca5/eng/crp01.pdf

AWG-LCA (Ad-Hoc Working Group on Long-Term Cooperative Action under the Convention), *Enhanced national/international action on mitigation of climate change: economic and social consequences of response measures*, Eighth session, Copenhagen, December 2009, http://unfccc.int/resource/docs/2009/awglca8/eng/ l07a07.pdf

BACKSTRAND Karen, LOVBRAND Eva, "Climate governance beyond 2012: Competing discourses of green governmentality, ecological modernisation and civic environmentalism", in PETTENGER Mary E. (ed.), *The Social Construction of Climate Change*, Ashgate Pub Co, 2007, pp.123-141

BERKHOUT Frans et al., "How do climate policies work? Confronting governance dilemmas in the European Union", in HULME Mike, NEUFELDT Henry (eds), *Making climate change work for us: European perspectives on adaptation and mitigation strategies*, Cambridge University Press, 2010, pp.137-164

BIERMANN Frank, "Science as power in international environmental negotiations: global environmental assessments between North and South", Environment and natural resources program, Discussion paper n°17, Cambridge, Mass.: Belfer Center for Science and International Affairs, John F. Kennedy School of Government, Harvard University, 2000

BIERMANN Frank, "Institutions for scientific advice: Global environmental assessments and their influence in developing countries", *Global Governance, vol.*8, n°2, pp.195-219, 2002

BIERMANN Frank, PATTBERG Philipp et al., "The fragmentation of global governance architectures: a framework for analysis", *Global environmental politics*, vol.9, n°4, November 2009, pp.14-40

BIERMANN Frank, PATTBERG Philipp et al., "Global climate governance beyond 2012: architecture, agency and adaptation", in HULME Mike, NEUFELDT Henry (eds), *Making climate change work for us: European perspectives on adaptation and mitigation strategies*, Cambridge University Press, 2010, pp.263-290

BOURG Dominique, WHITESIDE Kerry, « Pour une démocratie écologique », La vie des idées, septembre 2009

BOY Daniel, *Les parlementaires et l'environnement*, Les Cahiers du PROSES, n°7, septembre-octobre 2003

BOYKOFF Maxwell T., BOYKOFF Jules M., "Balance as bias: global warming and the US prestige press", *Global environmental change*, n°14, pp.125-136, 2004

China's State Council, "Decision in relation to materializing scientific development vision for the strengthening of environmental protection", 2005, http://www.gov.cn/ zwgk/2005-12/13/content_125680.htm

COONEY Rosie, "The precautionary principle in biodiversity conservation and natural resources management: an issues paper for policy makers, researchers and practitioners", IUCN Policy and Global Change Series n°2, 2004

DOUGLAS Mary, WILDAVSKY Aaron, *Risk and culture: an essay on the selection of technological and environmental dangers*, University of California Press, 1982

EHNMARK Ernst Erik (rapporteur), Avis du Comité économique et social européen sur les « Perspectives pour la stratégie de développement durable », 5 novembre 2009, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri= OJ:C:2010:128:0018:0022:FR:PDF

EU-COR (Committee of the Regions), Europe2020 Strategy, http://portal.cor.europa.eu/europe2020/ Profiles/Pages/welcome.aspx

FOUCAULT Michel, *Les mots et les choses*, Éditions Gallimard, 1966

FOUCAULT Michel, *Power/Knowledge: Selected interviews and other writings, 1972-1977*, Pantheon, 1980

French National Assembly, Charter for the Environment, http://www.assemblee-nationale.fr/english/8ab.asp

GODARD Olivier (dir.), *Le principe de précaution dans la conduite des affaires humaines*, Maison des sciences de l'homme, 2001

GODARD Olivier, « Stratégies industrielles et conventions d'environnement : de l'univers stabilisé aux univers controversés », *INSEE-Méthodes, «Environnement et économie»*, 1993, Vol. 39-40, pp.145-174

GODARD Olivier, « Ce qui distingue expertise et controverses scientifiques de la campagne climato-sceptique », Seminar, Brussels, 10/28/2010

GOUYON Pierre-Henri, « La science sous la feu des snipers: biologie de l'évolution et climatologie », Seminar, Paris, 06/22/2010

GUERIN Emmanuel, « La coopération internationale après Copenhague », *Études*, avril 2010, n°412/4, pp.463-473

HAAS Ernst B., "Why collaborate? Issue-linkage and International Regimes", *World Politics*, 1980, vol.32, n°3, pp.358-405

HAAS Peter M., McCABE David, "Amplifiers or dampeners: international institutions and social learning in the management of global environmental risks" in The Social Learning Group, *Learning to manage global environmental risks: a comparative history of social responses to climate change, ozone depletion and acid rain*, The MIT Press, 2001

HAMILTON Clive, *Requiem for a species. Why we resist the truth about climate change*, Earthscan, 2010

HAMILTON Clive, "Economic growth: the dark side of the Australian dream", Horizons of science forum, University of Technology, Sydney, 24th February 1999

HANSEN James, "Global warming twenty years later: tipping points near", Speech to the National Press Club, Washington, 23 June 2008

HEYD Thomas, BROOKS Nick, "Exploring cultural dimensions of adaptation to climate change" in ADGER Neil, LORENZONI Irene, O'BRIEN Karen (eds), *Adapting to climate change: thresholds, values, governance*, Cambridge University Press, 2009

HONKONEN Tuula, *The Common but Differentiated Principle in multilateral environmental agreements: regulatory and policy aspects*, Wolters Kluwer Law & Business, 2009

HULME Mike, *Why we disagree about climate change: understanding controversy, inaction and opportunity*, Cambridge University Press, 2009

HULSE Carl, HERSZENHORN David M., "Democrats call off climate bill effort", New York Times, July 22nd 2010, http://www.nytimes.com/2010/07/23/us/politics/23cong.html

IEA (International Energy Agency), http://www.iea.org/

IPCC (Intergovernmental Panel on Climate Change), *Climate Change 1995. Impacts, Adaptation and Mitigation of Climate Change. Contribution of Working Group II to the Second Assessment Report of the IPCC*, Cambridge University Press, 1996

IPCC (Intergovernmental Panel on Climate Change), *Climate Change 2007. The A4R Synthesis Report*, http://www.ipcc.ch/pdf/assessment-report/ar4/syr/ar4_syr.pdf

JACQUET Pierre, BELLOT Jean-Marc, LOYER Denis, "Sustainable development in European Cooperation Policy", French Development Agency, 2008

KANDLIKAR Milind, SAGAR Ambuj, "Climate change research and analysis in India: an integrated assessment of a South-North divide", *Global Environmental Change,* vol.9, n°2, July 1999, pp.119-138

KAUL Inge, GRUNBERG Isabelle, STERN Marc A., *Global public goods: international cooperation in the 21st Century*, Oxford University Press, 1999

LE PRESTRE Philippe, *Protection de l'environnement et relations internationales : les défis de l'écopolitique mondiale*, Armand Colin, 2005

LAHSEN Myanna, "Trust through participation? Problems of knowledge in decision-making" in PETTENGER Mary E.

(ed.) *The Social Construction of Climate Change*, Ashgate Pub Co, 2007, pp.173–196

LOFSTEDT Ragnar E., FREWER Lynn J., *The Earthscan reader in risk society*, Earthscan Reader Series, 1997

MILLS Charles W., *The power Elite*, Oxford University Press, 1956

MILLSTONE Erik, "Analysing the role of science in public policy-making" in VAN ZWANENBERG Patrick, MILLSTONE Erik (eds), *BSE: risk, science and governance*, Oxford University Press, 2005

MOONEY Chris, *The Republican war on science*, Basic Books, 2005

MOUAWAD Jad, REVKIN Andrew C., "Saudis seek compensation if oil exports fall", New York Times, October 13, 2009, http://www.nytimes.com/2009/10/14/business/energy-environment/14oil.html

O'RIORDAN Timothy, JORDAN Andrew, "Institutions, climate change and cultural theory: towards a common analytical framework", *Global Environmental Change*, vol.9, n°2, July 1999, pp.81-93

OPEC (Organization of the Petroleum Exporting Countries), http://www.opec.org/

ORESKES Naomi, CONWAY Erik, *Merchants of doubt: How a handful of scientists obscured the truth on issues from tobacco smoke to global warming*, Bloomsbury Press, 2010

PATT Anthony, ZECKHAUSER Richard J., "Behavioral perceptions and policies towards the environment" in GOWDA Rajeev, FOX Jeffrey C. (eds), *Judgements, decisions and public policy*, Cambridge University Press, 2001

RACHLINSKI Jeffrey J., "The psychology of global climate change", *University of Illinois Law Review*, n°1, 2000, pp.299-319

ROSENAU James N. and CZEMPIEL Ernst-Otto, *Governance without government: order and change in world politics*, Cambridge University Press, 1992

RUGGIE John G., "International Response to Technology: Concepts and Trends", *International Organization*, 1975, vol.29, n°3, pp.557-583

SCHULTZ Wesley et al., "Implicit connections with Nature", *Journal of environmental psychology*, 2004, vol.24, n°1, pp.31-42

STERN Nicholas et al., *Stern Review on the Economics of Climate Change*, British Economics and Finance Ministry, 2006, http://webarchive.nationalarchives.gov.uk/+/http://www.hm-treasury.gov.uk/sternreview_index.htm

TISDELL Clem, "The precautionary principle revisited: its interpretations and their conservation consequences", Economics, ecology and the environment, Working paper n°158, University of Queensland, 2009

TUBIANA Laurence, *Les leçons politiques de Copenhague*, Ministère des Affaires Etrangères et Européennes, février 2010

TVERSKY Amos, KAHNEMAN *Daniel, Judgment under Uncertainty: Heuristics and Biases*, Cambridge University Press, 1982

UN (United Nations), http://www.un.org/en/

UNCBD (United Nations Convention on Biological Diversity), Cartagena Protocol, http://bch.cbd.int/protocol/

UNCCD (United Nations Convention to Combat Desertification), http://www.unccd.int/

UNEP (United Nations Environment Program), Rio Declaration on Environment and Development, http://www.unep.org/Documents.Multilingual/Default.asp?documentid=78&articleid=1163

UNFCCC (United Nations Framework Convention on Climate Change), Copenhagen Accord, http://unfccc.int/home/items/5262.php

UNFCCC (United Nations Framework Convention on Climate Change), Kyoto Protocol, http://unfccc.int/kyoto_protocol/items/2830.php

VECCHIONE Elisa, "Capitalizing domestic policies at the international level: which challenges for the EU to the championship of the precautionary principle?", Chaire de développement durable de Sciences Po, 2012 (forthcoming)

VOITURIEZ Tancrède, "Why the Rio regime has failed to deliver, or sustainable development as conflict", IDDRI, 2010

WMO (World Meteorological Organization), http://www.wmo.int/pages/index_en.html

WRI (World Resources Institute), http://www.wri.org/stories/2011/03/how-does-chinas-12th-five-year-plan-address-energy-and-environment

Compromising on a climate regime: on the importance of perceptions
Carole-Anne Sénit (IDDRI-Sciences Po)

IDDRI'S PUBLICATIONS

- L. Chabason (2011), « 20 ans après Rio, un développement qui n'a rien de durable », IDDRI, *Working papers,* n°12/11.
- E. Guérin, M. Wemaëre (2009), « L'accord de Copenhague : que s'est-il passé ? Est-ce un bon accord ? Qui y gagne et qui y perd ? Et maintenant ? », IDDRI, *Idées pour le débat-Working papers*, n°8/09.

www.iddri.org

The Institute for Sustainable Development and International Relations (IDDRI) is a Paris and Brussels based non-profit think tank. Its objective is to develop and share key knowledge and tools for analysing and shedding light on the strategic issues of sustainable development from a global perspective.

Given the rising stakes of the issues posed by climate change and biodiversity loss, IDDRI provides stakeholders with input for their reflection on global governance, and also participates in work on reframing development pathways. A special effort has been made to develop a partnership network with emerging countries to better understand and share various perspectives on sustainable development issues and governance.

For more effective action, IDDRI operates with a network of partners from the private sector, academia, civil society and the public sector, not only in France and Europe but also internationally. As an independent think tank, IDDRI mobilises resources and expertise to disseminate the most relevant scientific ideas and research ahead of negotiations and decision-making processes. It applies a crosscutting approach to its work, which focuses on five threads: global governance, climate change, biodiversity, urban fabric, and agriculture.

IDDRI issues a range of own publications. With its *Working Papers* collection, it quickly circulates texts which are the responsibility of their authors; *Policy Briefs* summarize the ideas of scientific debates or issues under discussion in international forums and examine controversies; *Studies* go deeper into a specific topic. IDDRI also develops scientific and editorial partnerships: among others, A *Planet for Life*. *Sustainable Development in Action* is the result of collaboration with the French Development Agency (AFD) and The Energy and Resources Institute (TERI), and editorial partnership with Armand Colin.