Fair and Feasible Climate Change Adaptation

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1. Aim

The aim of the project "Fair and Feasible Climate Change Adaptation" (Fair-Ad) is to address the increasingly important and publicly highlighted climate change strategy of *adaptation* from an ethical and institutional perspective. More specifically, it aims at answering two overarching questions. *First*, what are the outlines of a *fair* politics of adaptation? Underlying this question is the assumption that adaptation – or the process of learning to cope with climate change – presents costs that have to be shouldered by agents, e.g. states, and that there are different ways of shouldering them. Based upon previous findings both by members of Fair-Ad (Jagers & Duus-Otterström 2007; 2008) and an increasing number of other scholars (e.g. Metz 2000; Singer 2002; Caney 2005; Page 2006), Fair-Ad will take a firm grip of the ethical challenge of more in detail examining what such a fair distribution would look like. As will become obvious below, this is no easy task. Nevertheless, despite its complex and difficult nature, to further our understanding of the ethical pros and cons of different distributional principles is necessary if the global community wants to adapt the world to (unavoidable) climate change as fairly as possible – a requirement commonly pleaded for in the international climate change negotiations.

The second question proceeds from the first: Given the answer to the question regarding fair distribution, what *institutional arrangements* are needed to bring about a fair adaptation of climate change? This question pertains to the question of practical and political *feasibility*. Obviously, feasibility in itself has no direct ethical import. It is possible that the fairest way of adapting globally turns out to require an altogether unthinkable political structure. If so, the lessons to be drawn from "ideal" and "non-ideal" theory will diverge (Rawls 2001), but will nevertheless be importance for, e.g. future policy processes and negotiations concerning climate change adaptation. This plausible outcome is not to say that political theory or normative analysis should stand separated from what could possibly be done. To the contrary, there is a definite added value in answering, given the analysis of fair adaptation, what institutional arrangements (new, complementary or existing) that are necessary in order to put the fair distribution of adaptation costs into practice, and also to analyse whether some arrangements are easier to implement than others. Also in this part of Fair-Ad we will draw from earlier research performed by members of the project group (Stripple 1998; 2005; Jagers 2007; Jagers & Stripple 2003; Jagers, Paterson & Stripple 2003)

The two questions and ways of answering them are fleshed out in greater detail below under section 3.

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2. Background: Climate Change Adaptation in Theory and Practice

The dangers associated with climate change call for a broad spectrum of policy responses and innovative strategies at the individual, local, national and international level. The UNFCCC (United Nations Framework Convention on Climate Change) highlight two fundamental response strategies: mitigation and adaptation. Mitigation means to limit (human induced) climate change by reducing the emissions of GHG (greenhouse gases) or by enhancing 'sink' opportunities, e.g. by planting trees and through sequestration.

Adaptation, on the other hand, aims to alleviate the adverse impacts of climate change. Since it is assumed that there will be a wide range of effects connected to climate change, e.g. unstable weather such as flooding, drought, hurricanes, new and spreading of diseases, sea-level increases, and consequently demographic changes, adaptation refer to a multiplicity of actions often with rather local uniqueness.

Although both mitigation and adaptation measures must be pursued to cope with climate change – not to speak of, to create an effective and inclusive international regime – most of hitherto attention has been devoted mitigation, both in science and the policy debate. The sensitivity to adaptation issues has, however, grown during the last few years, especially following the IPCC's (Intergovernmental Panel on Climate Change) Third Assessment Report (TAR). And there are good reasons for this, we believe. No matter how efficient and robust mitigation measures are or will be, a certain degree of climate change seems inevitable due to atmospheric accumulation of historical emissions and inertia in climate and ecological systems. Thus, even with radical mitigation (emissions down 70-90% until 2050 in developed countries and approaching zero, or even lower, at the end of this century) atmospheric CO_2 stabilization will take 100-300 years and temperature stabilization will take a few centuries. Sea-level rise due to thermal expansion will continue for centuries and sea-level rise due to ice-melting will continue for several millennia (IPCC 2001). Hence, adaptation will be with us for the years to come.

While the international debate on adaptation is very much needed, it is also quite understandable that it has gained less attention in the present negotiations. It really *is* a difficult matter. To start with, almost by definition adaptation must vary across both geographical scales (i.e. from individual/local up to international level) and temporal scales (both coping with current impact and preparing for long-term effects). In addition, the idea of adaptation covers highly complex and still rather uncertain conditions: To a large extent we still do not know when, where and what will happen with the climate when atmospheric greenhouse gas concentrations is increasing. Despite an increasing awareness of non-linear features of the climate system, the scientific community is only at the beginning of formulating and testing hypothesis in climate models and against proxy data. The extent to which these non-linearities involve points of no return or thresholds defining alternative stable states with hysterisis effects is also unknown (Olsson and Stripple 2006).

However, these uncertainties and complexities are not the only reason why adaptation has been kept a Cinderella in the international climate negotiations. For example, after been agreed upon at the

COP-meeting in Marrakesh in 2001, there are now three different international funds aimed to collect means to cover the costs for adaptation projects, mainly in countries particularly vulnerable and least capable to finance the projects by themselves.[1] These funds are, however, afflicted with a number of problems. The first Fund, the Kyoto Protocol's Adaptation Fund (AF), is primarily supposed to be replenished through a two percent levy on the Kyoto Protocol's Clean Development Mechanism. Although already set in action, many formal issues remain before the fund is fully functioning, e.g. it is still unclear who is actually qualified to apply from the fund and not the least: who should manage the fund? The second fund, Least Developed Country Fund (LDC), is supposed to support at least 49 LDC: s in their designing of national adaptation programmes of action. Finally, there is the Special Climate Change Fund (SCCF) which is aimed to support a variety of adaptation initiatives, e.g. technology transfer, transport, industry, natural resources and waste management – i.e. largely to assist developing countries to diversifying their economies (Dessai 2003). While it is decided that the latter two funds are operated by GEF (Global Environmental Facility) under the umbrella of UN, and the funds are already operational, at least one remaining important problem with both the funds is that they are based upon voluntary contributions. Apart from these adaptation funds, an obvious instrument to cope with society's climate change vulnerability is insurance. As has been discussed elsewhere, this option is mainly available in the most developed countries today (and also in the future) (Jagers, Paterson & Stripple 2003).

Furthermore, adaptation is costly (UNFCCC 2007). For example, with the present size and development of AF, which has been estimated by the World Bank to amount to between $270 to $600 million by 2012, the global community is quite far from being able to cover the expected *annual* developing countries adaptation costs of between $9 and $41 billion (Muller 2006). Thus, for the other two – voluntary based – funds to cover the annual costs, the donor countries must leave significant contributions.

If the costs and complexities concerning adaptation have so far hindered significant political action, the more fundamental ethical question of *who should pay for adaptation* remains insufficiently answered. Virtually all agree that climate change, in being a border-crossing environmental problem, calls for cost division between states. But there is little towards the way of an accepted distribution, at least not in a robust form.

There is today a growing literature which assesses different distributions of costs associated with climate change from an ethical perspective (Gardiner 2004 and Page 2006 presents accessible overviews). As a rule, the conclusion that the industrialised, wealthy world should shoulder the necessary burdens is reached. However, any impression of agreement this may give is illusory: underneath remains great disagreement on the *reason why* developed countries should take the costs. Some argue that it is the historical record of pollution which is relevant (Neumayer 2000). Others argue that it is the present levels of pollution (Shue 1999). Others yet argue that it is the wealthy world's ability to take

1 While the greatest losses, in absolute terms, occur in the industrialised world, when measured in relation to wealth, losses from extreme weather events are much higher in developing countries.

responsibility relatively easily (Page 2006). And some argue that it is the fact that the developed world has benefitted from the pollution of prior generations which places it under a duty to shoulder the burdens (see Caney 2005: 756-7). These are rival answers. They also present different ways of handling a *future world* where the present contingency – that the richest are also those who emit the most – is no longer the case. A more robust agreement on the ethics of climate change – something Fair-Ad is aiming at – would be able to handle not only distributions in the world as it is today, but also future and potentially very different states of the world.

If research into the ethics of climate change is still making headway today – a particularly promising account is given by Caney (2005) – it has, however, tended to overlook the particular question of climate change *adaptation* (Jagers & Duus-Otterström 2008). Either it focuses specifically on mitigation; in particular the ethics of emission rights trading (see e.g. Singer 2001), or it assumes all costs of climate change to be analyzable according to the same logic and see the choice between (different proportions of) mitigation or adaptation as merely a pragmatic one (see e.g. Caney 2005). But there are reasons to believe that *adaptation presents partly different ethical questions than mitigation*. The consequence is that the present literature fails to address one of the two strategies of climate change management out there, which must be considered a significant lacuna.

An increasingly strong case for saying that adaptation and mitigation poses partly different questions has been developed (Berkhout 2005; Paavola & Adger 2006; Jagers & Duus-Otterström 2008). The key difference is that while mitigation has no distributive outcome-side, adaptation does, raising questions about other-regarding duties (unlike what holds for mitigation, adaptation requires that resources are first collected and then allocated). Also, whereas mitigation involves a clear criterion for where the ethical responsibilities stop, adaptation is not as clearly connected to actual levels of emissions.[1] These insights are fairly new, and it is uncertain what will come of them in the future.

3. Project design

The first question addressed by Fair-Ad is the question of fair adaptation: Which way of distributing the costs of adaptation is the fairest?

This question will be answered in three steps. First, we will survey what principles of distribution have hitherto been suggested, by both scholars and practitioners. Call this the descriptive step. Secondly, we will analyze the strengths and weaknesses associated with each of the suggested distributional principles. In this evaluative step, we follow the "coherentist" approach usually employed by normative analysts today (see e.g. Glover 1990; Daniels 1996; Rawls 2001; Tännsjö 2001; Page 2007). According to this methodology, principles are tested against firmly held ethical intuitions about right and wrong. A principle which violates basic norms – say, a principle which consistently allocates the burdens on the least deserving agents – is weakened by it. The quest is to find situation where principles and ethical intuitions (of varying degree of particularity) are in harmony with one another. Rawls refers to such a situation as a state of "reflective equilibrium" (Rawls 2001).

1 It seems less problematic to absolve a 'green' state from obligations to mitigate than it does to absolve it from obligations of adaptation.

In a reflective equilibrium, the principle or set of principles one employs are well thought through and are free from devastating counterexamples and inconsistencies. That there remains uncertainty with regard to the truth-value of such an answer is an unavoidable part of the game of normative analysis (Page 2007). What one looks for is the position best supported by arguments; one seeks to find the ethical beliefs that are most justified to embrace after a systematic and impartial analysis of the different ways of making firmly held ethical beliefs and principles fit together. The evaluative step consists of subjecting different distributive principles to normative analysis. Next come what we may call the conclusive step, which is about identifying the position best supported by arguments in equilibrium.

The second question, concerning institutional arrangements, is twofold and consists of the following sub-questions: (a) What *institutional arrangements* are needed to bring about a fair adaptation of climate change? and (b) Seen from the present global political order, how *feasible* would such an institutional arrangement be? To answer sub-question (a), we will assess different institutional arrangements in terms of their ability to realise the preferred distributive principle. Which arrangements that will be deemed relevant of course depends on what principle that emerges from Fair-Ad's first segment, precluding us from being able to go into specifics here. Suffice to say here that a politics of adaptation based on that the polluter should pay would clearly need a different institutional design than one based on that the wealthy have an obligation to help the vulnerable regardless of where they live. There is certainly no shortage of such proposed institutional designs (Page 2006: 173ff): one may imagine more or less cosmopolitan ones; more or less compensation-based ones; more or less insurance-based ones; ones that are based on taxing emissions and ones that are based on global welfare politics; ones that and so forth. The task for us here is to conclude which institutional arrangement can be considered particularly apt to put the preferred distributive principle into practice.

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