

Responsibility for the past? Some thoughts on compensating those vulnerable to climate change in developing countries

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Abstract

The first impacts of climate change have become evident and are expected to increase dramatically over the next decades. Thus, it becomes more and more pressing to decide who has to compensate those people who suffer from negative impacts of climate change but have neither contributed to the problem nor possess the resources to cope with the consequences. Since the frequently invoked Polluter Pays Principle cannot account for all climate-related harm, I will take a closer look at the much more controversial Beneficiary Pays Principle. It is argued that, appropriately qualified, the Beneficiary Pays Principle can help to identify additional duty-bearers. Based on these results, I briefly comment on three different policy options to generate funds for compensation.

1. Introduction

By now, the question whether or not human activities influence the climate is answered by climate research: anthropogenic climate change has become evident. Already, first consequences can be observed. Indeed, the impacts will affect all regions of the world. However, particularly poor countries and their inhabitants will suffer earliest and most, although they have contributed virtually nothing to the cause of climate change. This is commonly perceived as an outrageous injustice and it is frequently claimed that ‘the developed countries’ and their inhabitants respectively have to compensate affected persons in developing countries. Since the lion’s share of anthropogenic GHG-Emissions during the last 200 years stems from the developed world the demand may seem clear immediately. However, from a moral point of view, linking *causal* responsibility (for GHG-Emissions) with *moral* responsibility (e.g. for compensation) is in need of justification. Demands for

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compensation usually focus on the victims of climate change without sufficiently analyzing who are the appropriate duty-bearers (cf. Caney 2006, Page 2006).

In this paper I will investigate which agents ought to compensate those negatively affected by climate change in developing countries. I will, thus, bracket the question who is entitled to compensation. Also, I will discuss the responsibilities of individual persons instead of nation states or other collective entities because individuals are of ultimate *moral concern* (at least within normative individualism). However, when analyzing different proposals to raise revenues for compensation, collective *moral agents* (like national governments or confederations of states) are taken into account for they may serve as important actors to collect and/or channel funds. The paper proceeds as follows: first, I apply the Polluter Pays Principle to the case at hand and briefly discuss some shortcomings (part 2). Since the Polluter Pays Principle cannot account for all climate related harm, in a second step I turn to the Beneficiary Pays Principle. Given that the principle is much more controversial (at least among philosophers) I will investigate it in greater detail (part 3).² Although my claim at the end of part 3 is that I have identified appropriate duty-bearers, the findings are quite abstract and do not tell us much about how compensation actually can be undertaken. Part 4, therefore, briefly discusses three approaches to generate funding for compensation. Part 5 concludes.

2. The Polluter Pays Principle and Climate Change

In consideration of the expected huge impacts of climate change, the question who has to compensate those negatively affected that have neither contributed to the problem nor have the resources to cope with the consequences becomes more and more pressing. The obvious answer is to draw on the Polluter Pays Principle (PPP) that can be applied to the case of climate change. The PPP claims that those having caused damage (the polluters) first of all have to stop polluting, and secondly have to compensate those harmed by the pollution. Hence, according to the PPP emitters of high quantities of GHG are responsible to compensate those negatively affected. Unfortunately, spelling out the consequences of

² A common approach in climate ethics is to combine the Polluters Pay Principle with the Ability to Pay Principle (ATP). The ATP says that those who are able, i.e. the affluent, should take over some burdens. Given that some excellent discussions of the ATP and possible combinations with the PPP already exist (cf. e.g. Caney 2005, 2010b; Jagers and Duus-Otterström 2007; Heyward 2010), while this is not the case for the Beneficiary Pays Principle (an exception is Page 2008), I will exclusively focus on the latter.

applying the PPP necessitates introducing some of the distinctive features of climate change, making the analysis of responsibility much more complex.

First, GHG emissions as such are not harmful. Only when emitted in great quantities over a long period of time they cause harm. Moreover, life without emitting is not possible. Every human must breathe and has to use some amount of energy for heating and nutrition purposes. Therefore, only when exceeding a certain amount emissions should be regarded as pollution. In consequence, all agents have to provide compensation that exceed their fair share of emission rights.³

Second, a further difficulty concerns the causal link between emissions and damage. To utilize the PPP it is necessary to specify the harm done and trace it back to the causal agents (Caney 2010b). The extent of uncertainty in climate science makes this difficult or even impossible (in detail see *ibid.*). In future, scientist may be able to handle the uncertainties appropriately (cf. Allen 2003). Another, more elegant, solution could be to make the polluters pay for their abatement costs and not for the damage costs (Mickelson 2005, 155). Then, polluters would have to transfer the money gained by not reducing emissions according to what is their fair share. This is an interesting and important issue that warrants in depth discussion. Given the different focus of this paper I will not deal with it here.

Third, anthropogenic climate change represents the cumulative result of various collective and individual decisions and actions during the last 250 years. Holding nations responsible for all emissions since the industrial revolution would mean to make current citizens of these countries pay not only for their own contribution but also for what their ancestors had done. Within the realm of normative individualism it is very difficult to justify such a claim. Although this does not necessarily mean that we have to turn a blind eye on past emissions, it suffices to conclude that the scope of the PPP is limited. While it works very well in the intra-generational context, it does not do so within the intergenerational one (Page 2008, 559-560).

Fourth, for a long time people were excusably ignorant of the consequences of high GHG-emissions. Since members of previous generations could not know about the harmful

³ In this paper I will not comment on what is to be regarded as a fair share. I have addressed it elsewhere (Batz 2012). According to the popular notion of equal per capita emission rights (EPCER), fair shares can be determined straightforwardly by dividing the amount of total emissions rights by the world population. Currently, this would add up to roughly 2.5 t CO₂ (cf. WGBU 2010). For a philosophically profound challenge of EPCER see especially Simon Caney (2009, 2010a) and Derek Bell (2008).

consequences of their emissions on subsequent generations, they have not acted in a culpable way (Meyer 2004a, 28). Meyer therefore concludes that although past emissions are clearly harmful, they are not wrongful; they do not pose an (past) injustice as e.g. slavery (2004b).⁴ It is disputed whether or not the PPP can be applied under circumstances of excusable ignorance.⁵ While some scholars argue that it cannot (Schüssler 2012, Müller et al. 2009) others try to justify that it can by referring to the notion of ‘outcome responsibility’ *sensu* L.H.A. Hart (Heyward 2010). Here, I will make the fairly uncontroversial claim only that the PPP can be applied to post-1990 emissions.⁶

Although all four remarks restrict the application of the PPP to climate change, none calls into question the application as such. Remarks three and four exclude a certain period of time (emissions of previous generations and pre-1990 emissions respectively) and remark one excludes a certain amount of an agent’s emissions (those corresponding to the fair share). Eventually, remark two is the most problematic. In combination with remark one the question that has yet to be answered is: how to measure the amount of compensation that is due according to the PPP? Up to now, no convincing proposals exist. I will come back to this point in part 3.4

To sum up, agents exceeding their fair share since 1990 are obligated to compensate those negatively affected in poor countries.⁷ But who has to pay for damages caused by pre-1990 emissions, or – to be more precise – those damages that cannot be addressed by the resources raised from current polluters and according to the PPP respectively? In fact, the question

⁴ In Meyer’s conception the wrongfulness of an action is related to culpability: an action is wrongful when the agent has acted in a culpable way. In another conception, whether or not an action is wrongful/unjust is related to the violation of the entitlements of a person (cf. e.g. Caney 2006, 2010b). According to this second conception, past emissions are wrongful and they do pose an injustice because (some) entitlements of (some) persons are violated by them. This is not to say, though, that agents have acted in a blameworthy way. In this conception, therefore, one has to further distinguish between (for instance) intentional and unintentional wrongful acts. For the discussion whether or not the PPP can be applied under circumstances of excusable ignorance (see above) it does not matter whether the act is termed wrongful or harmful.

⁵ This topic is also discussed with reference to ‘strict liability’.

⁶ Most of the commentators take 1990, the year of the publication of the first IPCC report, as a plausible date when the ignorance-argument lost its force (instead of many: Müller et al. 2009, 18). It is also possible to argue for an earlier as well as a later date; but it is quite obvious that the cut-off point should be located somewhere around 1990.

⁷ It can be objected, though, that it takes decades to transform a high- to a low-carbon economy (without causing severe distortions). According to this argument, it would be unfair to make citizens of developed countries pay for their excessive GHG emissions from the moment they knew about the harmful consequences for they had no time to restructure their life towards a low-carbon lifestyle. Today, 20 years later, not much – or nothing at all – has happened in this respect. Therefore, at the latest from now on agents are liable for all of their emissions in excess. Even this ‘polluter-friendly’ interpretation would result in an enormous transfer of resources.

covers two distinct aspects: first, *are current agents liable for their own emissions caused under circumstances of ignorance?* and second, *are they liable for emissions of their ancestors?*. In what follows I will deal with an argument claiming that compensation might be due even if the harmful action was not undertaken by the agent herself. If it is possible to defend this view, it also holds for emissions of current generations caused under circumstances of excusable ignorance.

3. The Beneficiary Pays Principle

At this point, a further argument comes into play. It basically says that those that have benefited from (past) emissions are obligated to compensate. This so called Beneficiary Pays Principle (BPP) was formulated somewhat intuitively by several authors (Smith 1996, Shue 1999, Neumayer 2000). A more elaborated version of this argument was developed by Axel Gosseries (2004, 43) stating that “free-riding [...] occurs when (1) another person’s action (2) benefits me (3) while the costs involved in it are being more than proportionately covered by other people”. As long as the free-rider does not compensate the victims of this action to some extent, free-riding is immoral (ibid. 42).⁸ In the case of climate change the BPP has a strong intuitive appeal. Most people seem to share the moral intuition expressed by it. When I talk with friends, students or colleagues about responsibility for past emissions and explain why it is problematic to apply the PPP to the intergenerational context, most of them ask “but what about the benefits?” before I have even mentioned the BPP. However, the BPP faces some serious challenges and to my knowledge most philosophers think that applying it to climate change is a fruitless enterprise.

In the following I will investigate the BPP in detail. A comprehensive analysis of the BPP requires three main steps: i) a discussion whether it constitutes a valid moral principle at all, ii) a discussion whether it can and should be applied to (the intergenerational component of) climate change, and iii) a discussion how it can be operationalized (which agent has to contribute how much according to the principle?). Within the space available here, it is not

⁸ Gosseries uses the terms free-rider and beneficiary synonymously. His free-riding terminology is inspired by the work of David Gauthier (1986). However, compared to Gosseries’ definition Gauthier himself has a slightly different account of free-riding. Gauthier’s account is close to what is usually meant by free-riding in economics. This is neither identical with Gosseries definition nor with what we have in mind regarding benefits from past emissions.

possible to provide satisfying answers to all three questions. I will address key issues within each step only.

3.1 A sound moral principle? – Defining the beneficiary principle

A general critique of the BPP is simple but forceful: why does the reception of a benefit create obligations? Here, several things have to be taken into account. To increase reader friendliness 3.1 is subdivided in five paragraphs.

I.) The basic critique is that the BPP is implausible because it can lead to counter-intuitive outcomes. In many everyday situations, the argument goes on, beneficiaries of an action are not obligated to share their benefits or compensate others. Robert Nozick, for instance, develops the example of a person enjoying the benefits from an entertainment scheme the neighbours are undertaking on a regular basis (1974, 93). The neighbours take turns in providing the entertainment and one day it is the person's turn. Is she obligated to contribute to the scheme? Certainly not, Nozick concludes (*ibid.*). Although I am not sure whether I share Nozick's intuition, his example highlights that benefiting as such may not create obligations. Such a claim would be overly simplistic. In defending his approach against Nozick's challenge, Gosseries (2004, 46-9) limits the amount of compensational obligations to the received net-benefit, even if this is not sufficient to recover all losses.⁹ This constraint seems reasonable. Once beneficiaries transfer more than they gained in terms of benefit, the causal connection between action, harm, and benefit is not important anymore (as acknowledged by Gosseries himself). However, the BPP as discussed here draws on the intuition that this causal relation matters. Without the causal relation the decisive aspect does not consist in having received a benefit from the action causing the harm but *only* in the agents' general ability to pay. This would mean to draw on the Ability to Pay Principle (ATP) already mentioned in footnote 1.

If the 'net-benefit amendment' is accepted, further specifications are necessary still. To use climate change as an example: the benefits resulting from past emissions are probably huge. Does this mean that, by way of example, US-citizens have to transfer resources to the victims of climate change until the US-citizen's standard of living is reduced to the level it amounted to before industrialization took place? This would be extremely rigorous. For this reason I wish to supplement the BPP with two further principles. First, if the received net-benefit

⁹ The same point is made by Daniel Butt (2007, 140-2).

overshoots the total damage, the beneficiary only has to transfer the part of the benefit necessary to recover the losses. Second, the beneficiary has to dispose of the received benefit only as long as he does not fall below a specific threshold (in terms of quality of life). It follows that beneficiaries of past emissions will have to pay compensation as long as i) they transferred all their net-benefit or ii) all losses are repaired or iii) further payments would make them fall below the threshold.¹⁰ The principles discussed here have to answer two distinct questions: *who has to pay?* and *how much is to pay?*. While the PPP gives a straightforward answer to both questions (at least in theory), the BPP so far suffered from providing an answer to the first question only. Due to the proposed amendments the BPP now provides an answer to the second question as well.

II.) But a BPP specified in this way is subject to further criticism. An opponent of the principle can ask the reasonable question why *involuntarily* receiving a benefit creates compensational duties (cf. Schüssler 2012). In Nozick's example it seems to be the case that – although the benefit is not explicitly accepted – one could at least somehow avoid benefiting from the scheme. The fact that one did not may ground some obligations. But in case of past emissions it is not possible to avoid the benefit or reject its receipt. Even the rather drastic option of immigrating to a poor country is not really a successful strategy because a substantial amount of the benefit already accrues to persons during infancy, childhood, and adolescence (cf. Shue 1999). Therefore, benefits of past emissions are received involuntarily. Daniel Butt, though, makes an excellent argument that *involuntarily* benefiting from a (past) injustice does create obligations. He argues that the duty not to benefit from another's suffering when that suffering is a result of an injustice stems from one's moral condemnation of the unjust *act* itself (2007, 143). The duty results from a genuine aversion to injustice and it would constitute a conceptual error to condemn an act as unjust, but simultaneously not to be willing to mitigate its effects on the grounds that it has benefited us; the refusal undermines the condemnation (ibid.).

III.) The opponent, however, can point out that Butt's argument does not apply to past emissions. Past generations have not acted wrongfully and their emissions thus do not count

¹⁰ How much the beneficiaries have to pay strongly depends on how the threshold is defined. Naturally, such a definition is a highly controversial issue.. Here, I will not discuss what a plausible threshold could be.

as an injustice (see part 2).¹¹ The opponent now can specify her critical question in the following way: why does *involuntarily* benefiting from a *non-wrongful* act create obligations?

At this point, it has become clear that the BPP fails as a principle of backward-looking/rectificatory justice in case both critical conditions are not fulfilled (voluntary reception and benefits derive from an injustice). However, it can be restated in a forward-looking way and thereby be associated with distributive justice. The basic idea is that involuntarily benefiting from a non-wrongful action *can* create an obligation, namely in those cases where the action (from which the benefits derive) causes harm to third parties that cannot be fully addressed by the responsibilities of the causers (may they be dead, inhuman, unable etc.). There is a basic moral intuition that suffering through no fault of one's own is a bad thing as such and should be mitigated. When asking who should provide remedy to those suffering, the BPP gives a plausible answer because it answers *why* those wealthy are not entitled to their wealth: they have (undeservedly) benefited from a harmful action. Rephrasing Butt's argument he has made with respect to benefiting from injustice: if we consider undeserved suffering as something bad that should be mitigated, would it not be odd to simultaneously insist on retaining the (enormous) benefits resulting from the harmful action?

This line of reasoning is plausible only, if the BPP is not considered as a principle of rectificatory justice (as Gosseries does). As in case of the PPP, rectificatory justice requires that the responsible agent rectifies the harm *she* has caused. But what is at stake here is neither blame nor punishment, not even liability for unintentionally caused harm, but the redistribution of undeserved benefits and burdens, as nicely brought out by Lukas Meyer and Dominic Roser (2010). If it is about the redistribution of benefits and not about rectification, the BPP, as defended here, seems appropriate. It gives a (positive) reason *why* we should redistribute and indicates *how* the redistribution has to be organized: the net-beneficiaries compensate the negatively affected. The argument rests on the intuition that if someone is seriously harmed with no fault of her own and the harming agent cannot be held liable, the harm should *not* be ignored. But who should take over compensation instead? The BPP seems

¹¹ Even if one adopts the rivaling concept of injustice mentioned in footnote 3 (injustice equates to violation of entitlements and not to culpability of the harming agent), I suspect that Butt's argument does not apply to past emissions. In the cases considered by Butt, the perpetrators of the injustice (here: rape) are obviously not excusably ignorant. In fact, they are culpable of having committed a crime. Butt's argument is forceful because the unjust *act* as such is shameful and should be *condemned*. Having emitted a substantial amount of GHG 100 years ago is neither shameful nor should it be condemned.

to provide a plausible answer. In conclusion, there are redistributive duties grounded in the received benefit.¹²

IV.) An opponent of the BPP has at least one further important argument. He can highlight situations where the redistributive duty of the beneficiary clashes with her entitlements. One example is provided by Simon Caney.¹³ Consider a man that steals electricity by tapping into the power line leading to a house and thereby (somehow) illuminating the street running next to the house. A woman that is using the street benefits from the light. Given that the thief is dead, should the woman compensate the owner of the house afterwards? Certainly not, at least if we further assume that it is a dangerous neighborhood and the additional light improved the safety of the woman. But, is the woman really entitled to the light? If we think of real world situations, it is highly likely that she could take an alternative route to reach her destination. Perhaps, the additional light allows her to take a shortcut, e.g. to get to work. Then, it seems way less dubious that she should compensate the impoverished man in case she takes advantage of this new possibility (e.g. now she can make it to tennis after work). One can, of course, further modify the example to the effect that it is the *only* way she can take and undertaking the walk is *important* (it is not just about tennis but getting to work, for example). Then, I agree that she is indeed entitled to the light because otherwise she could not exercise an important aspect of her life without taking a serious risk. However, this is not necessarily in conflict with the principle because without the light she is lacking an important right or functioning and thus falls below the threshold. To put it differently: when the sufficiency threshold introduced in section I. is defined carefully (e.g. by employing the capability approach) it can account for situations in which the beneficiary is entitled to the benefit.

V.) To successfully defend the BPP against criticism several specifications and modifications were required. As a principle of (re)distributive justice it can be expressed as follows:

¹² To emphasize the distinction between duties resulting from rectificatory and distributive justice linguistically, one could talk about ‘reparations’ as far as the PPP is concerned (emissions since 1990) and about ‘compensation’ concerning the BPP (emissions generated earlier).

¹³ Oral contribution during a workshop held at Graz University in September 2010.

Qualified Beneficiary Pays Principle (QBPP)

In case agent A performs action X that harms agent C, agent B is under an obligation to compensate C, if

- i) C's harm cannot be (fully) addressed by the responsibilities of A,**
- ii) B receives a net-benefit from X.*

B has to compensate until a) further payments would make B fall below a sufficiency threshold, b) B has delivered all her net-benefit, c) C's harm is fully compensated.

** A might be dead, unable or inhuman.*

Note that i) and ii) is each a necessary but not a sufficient conditions, while i) + ii) meets the sufficient condition to trigger B's duties. On the other hand, a), b) and c) is each a sufficient but not a necessary condition to nullify the obligations of B. Finally, condition i) gives the PPP lexicographical priority; the QBPP takes effect only when the obligations resulting from the PPP are not sufficient to realize compensation.

3.2 Benefiting from past emission? – Applying the beneficiary principle

So far, I discussed whether or not involuntarily benefiting from a non-wrongful act creates duties. Although the discussion applies to climate change and past emissions respectively, it was general in that it holds true for all cases exhibiting the respective features. However, even if the QBPP is accepted as such one can still doubt that it is of much use in the case at hand, i.e. that it is not able to identify duty-bearers who ought to compensate as well (in addition to polluters).

The most important argument in this respect is that current generations are no beneficiaries of past emissions. The argument rests on Derek Parfit's Non-Identity-Problem (NIP). Parfit highlights that all persons are contingent phenomena (1987, 351-2). This is due to the fact that the genetic characteristics of every person are determined in the moment they are conceived and a conception at any other point in time would probably mean that another individual would have been born (ibid.). In consequence, the course of action in past and present determines which individuals will live in future. Parfit further relies on person-affecting moral principles, implying that a course of action can be morally wrong only if a particular person will be harmed, i.e. made worse off (1983, 168). In an intergenerational context Parfit's considerations have drastic implications. If the current generation chooses a policy implying a

standard of living that is lower ('depletion policy') compared to an alternative scenario ('conservation policy'), future living individuals are not harmed by this decision (1987, 361). Had the present generation opted for the 'conservation policy' different individuals would have come into existence. Thus no specific individual is harmed: "since it will be bad for no one, our choice cannot have a bad effect" (1987, 363). As a result, persons cannot be harmed by any action, which at the same time is a necessary condition for their existence. Applied to benefiting from past emissions it follows that without industrialization and hence, climate change, today different persons would live in most parts of the world. Therefore, it is argued, current inhabitants of the affluent world have not been made better off by industrialization than they would have been otherwise because without industrialization these persons would not have existed at all (Caney 2006, 474-5). Hence, the proposition that currently living individuals have benefited from past emissions is wrong (see also Meyer and Roser 2010).

One possible objection draws on Konrad Ott's work. Ott makes an analytical distinction between personality and individuality (2004, 88). According to this view, the moral obligation not to harm future persons is directed towards *single* persons (contrary to wholes or collectives) but these obligations are independent of the *individual* features of the respective person. We do not have to identify any single moral patient in her (genetically determined) individuality. Moral obligations are directed towards single persons but these obligations are independent of the individuality of the respective persons, i.e. person-affecting principles allude to single persons irrespective of the individual features of these persons (ibid.). My moral obligations towards person X do not change if this person is Peter instead of Jane. What matters is whether X has the status of a person. Drawing on this distinction it is indeed possible to claim that current persons are better off than they would have been otherwise. From the moral point of view we can easily say that current individuals are better off than different individuals who would have existed had industrialization not taken place. Admittedly, this is a more abstract benefit than to say that *Peter* is better off than he would have been otherwise.

So far, the terms 'benefit' and 'harm' have been conceived *counterfactual*: being better (worse) off than otherwise. However, benefits/harms can also be conceived *comparative*: being better (worse) off than others are at present. Since the NIP rests on the counterfactual conception, the comparative conception avoids the NIP. As Lukas Meyer and Dominic Roser write, citizens of developed countries benefit from past emissions insofar as they are brought

up in an industrialized world while others cannot enjoy such circumstances (2010, 235). “To illustrate, if an inhabitant of the North had been taken away after his birth and been transferred to a slum in the South, he would have been worse off than being raised in the developed world” (ibid.). Henry Shue’s legacy argument (cf. 1999, 536-7) also seems to be based on the comparative conception. In a nutshell he argues that current generations received a substantial amount of wealth from previous generations that was created by producing devastating side-effects. The wealth should be used to remedy the negative effects of its creation. The legacy thus contains benefits *as well as* burdens and it is not possible to enjoy the benefits while passing on the burdens (ibid.). The point is that it does not matter whether or not the creation of the legacy constituted a necessary condition for the recipients’ coming into existence.

The comparative conception matches the above reasoning that the QBPP is about redistributing undeserved benefits and burdens. It is, however, vulnerable to the objection articulated in section V. of part 3.1. According to the comparative account, someone is a beneficiary when he is better off than others. Although being better off than others, the beneficiary may be entitled to the benefit (as illustrated by the electricity-thief-example). If so, the comparative conception does avoid the NIP but leads to implausible conclusions in certain situations (when the beneficiary is entitled to the benefit). A third conception of benefits/harms is possible and the definition of the QBPP is (implicitly) based on this conception: a person is benefited (harmed) when she is pushed above (below) what she is entitled to.¹⁴ The third conception is particularly adequate for the intergenerational context. It avoids the NIP in both ways: people are harmed when they are pushed below what they are entitled to (past emissions are thus *harmful*, cf. part 2) and benefited if they are above what they are entitled to; that is to say they are well off in absolute terms and at the same time better off than those who are below the threshold.¹⁵

To sum up, when benefits are conceived counterfactually the QBPP is vulnerable to the NIP, and when they are only conceived comparatively the QBPP may lead to implausible outcomes (because a beneficiary may have to transfer a benefit she is entitled to). Given that the

¹⁴ I am indebted to Simony Caney for pointing out the three different conceptions of benefits/harms.

¹⁵ This third conception is explicitly acknowledged by Parfit who writes that in addition to the counterfactual there also is a non-counterfactual account (Parfit uses the term ‘comparative’ but from the discussion it is clear that he is referring to what is usually termed counterfactuals) (2011, 233). On this account “acts might be wrong because they violate certain people’s rights, or they cause people to exist with rights that cannot be fulfilled” (ibid. 242). I suspect that Ott’s idea of a *person* also rests on the third conception.

‘entitlement-conception’ avoids both problems this conception must be adopted to successfully defend the QBPP in an intergenerational context.

3.3 What is the net-benefit? – Operationalizing the beneficiary principle

A further important question remains, though. The QBPP demands redistribution of net-benefits only. This condition requires determining net-benefits resulting from past emission. But is that possible? Which part of the wealth accumulated in a developed country is owed to past emissions and which to colonialism, slavery, wars or to inventions, hard work, luck etc.? And further: A and B, members of the current generation, possess the same level of wealth, though the parents, grandparents and great-grandparents of A worked as coal miners while those of B sold bicycles. What is the net-benefit of A and B respectively? If the application of the QBPP necessitates the provision of an answer to these questions, it cannot be applied to climate change, because it is – quite simply – not possible to answer them without getting lost in the contingencies of history.

A solution is to claim that the QBPP works on a different, more general level. All possible causes of current wealth involved the generation of emissions, some more and some less. The industrial process (past emissions) played a key role in the accumulation of wealth, though in combination with other factors. The massive accumulation of man-made capital we experience today is unique in human history and would not have been possible without industrialization. Of course, current wealth in Western Europe is also based on colonialism and certain inventions. But these ‘activities’ caused the very emissions we are concerned with. That is to say, all current wealth contains the ‘signature’ of past emissions. The argument also works with regard to A and B (see above). Ancestors of current persons have been engaged in various activities. But to claim that they have received a net-benefit (in the general sense) refers to the fact that these persons were born and raised within a rich industrial society. These circumstances gave them the possibility to become wealthy, even if their parents, grandparents and so on just sold bicycles. Hence, poor people are beneficiaries to a small extent or not even at all. In short: whether and to what extent current persons are beneficiaries depends on their level of wealth. Note that this reasoning applies to developing countries as well. To the extent that wealthy elites, too, enjoy the ‘benefiting industrial circumstances’ they are beneficiaries of past emissions. The ‘only’ difference is that much more poor people live in developing than in developed countries.

Finally, I wish to address one last concern regarding the QBPP. I have argued that both current polluters and beneficiaries of past emissions are under an obligation to compensate as long as they are above a sufficiency threshold.¹⁶ Caney argues that PPP and BPP may not sit together easily and each possible combination is problematic, to say the least (2006, 472-3). Caney discusses the BPP as a principle of rectificatory justice. Since the QBPP is a principle of distributive justice ‘only’, his arguments do not apply.¹⁷ Therefore, PPP and QBPP can be combined additively: polluters have to pay compensation to the extent they pollute. If this is not sufficient to address all losses in the long run, additional resources have to come from beneficiaries of past emission. Given:

X = total volume of required compensation

Y = ‘avoided abatement costs’ / ‘damage costs from emissions’ since 1990 (or today)

Z = amount that has to be paid by beneficiaries

it holds that

$X - Y = Z$.

As long as $Y \geq X$ beneficiaries do not have duties.

3.4 Summary of results

I concluded on a rather abstract level that current polluters and beneficiaries of past emissions are responsible for providing compensation to current victims of climate change. At this point, three clarificatory remarks are due. First, I argue that polluters ought to pay for their excessive emissions since 1990 or at least since today. It is not possible, though, to determine what exactly Y amounts to. One reason is conceptual: different (plausible) approaches arrive at different conclusions regarding what is a person’s fair share of emissions rights (cf. Baatz 2012). The other is empirical: so far, estimates of damage costs are speculative and to my knowledge reliable estimates for abatement costs only exist for certain industries like power generation, steel production, car industry, etc. In addition, on the level of individuals it is hardly possible to accurately measure abatements costs, i.e. benefits deriving from excessive emissions. But this does not hamper the application of the PPP as done in the next section (part 4). Whatever exact fair share(s) will be and however costs will be measured, the amount

¹⁶ The threshold introduced when discussing the QBPP also applies to polluters and the PPP respectively. Poor people responsible for excessive emissions should not be obliged to provide compensation. Usually, these emissions are regarded as subsistence emissions (cf. Shue 1993).

¹⁷ Caney himself proposes a combination of a rectificatory (PPP) and a redistributive principle (ATP). He labels this approach ‘hybrid view’ (cf. 2010b).

of compensation that is due according to the PPP is enormous.¹⁸ To instantly pay the total amount would overburden many societies and individuals. Also, political leaders would never agree to something like this in the world we live in today. For the discussion of actual compensational mechanisms it is therefore not a serious drawback to remain speculative about Y for now.

Second, in reality beneficiaries of past emissions and current emitters of high quantities of GHG are mostly the same people; in fact those that belong to the global consuming class.¹⁹ In conclusion, members of the global consuming class have to compensate for all climate-induced losses; at least as long as they can afford it without falling below the sufficiency threshold. As a result the resources needed for compensation mainly have to come from current citizens of developed countries. Still, some amount of compensation has to be provided by developing countries as well. Third, it is a realistic assumption that resources for compensation always will remain scarce and should be allocated where needed most. Hence, a focus on poor regions of the world, i.e. developing countries, is warranted. This means giving up the idea of a truly cosmopolitan mechanism in which both contributors and recipients are located all over the world.

4. How to raise funds for compensation

There is a substantial gap between, on the one hand, rather abstract philosophical analyses on how to justly distribution the benefits and burdens resulting from climate change, and, on the other hand, policy proposals on how to provide revenues to poor countries/people negatively affected by climate change. In the future, it will be crucial to link both discourses. This paper is a first tentative attempt in this direction. Although the results achieved in part 3 do not tell us much about how to actually realize compensation, they provide a benchmark to assess the fairness of the many proposals that exist at present. In this last section I will briefly comment

¹⁸ In 2009 US-Americans emitted 21.5 t CO₂ per capita (WRI 2011). Assuming that the fair share is 2.5 t CO₂ Americans are in excess of 19 t on average. Multiplied with a price of 50 USD per t CO₂ the average American would have to pay 950 USD. In total, US-citizens would have to provide roughly 300 billion USD every year(!). Plus, in this crude back-of-the-envelope calculation *all* past emissions are omitted, emissions are still on the rise and abatement costs may rise well beyond 50 USD per t once emissions are seriously lowered.

¹⁹ This also includes wealthy agents that do not exceed their fair share (non-polluting beneficiaries of past emissions).

on three different options to generate funds for compensation based on the results achieved above.²⁰

To assess different funding options some information about item X in the above formula is required. For an answer it is insightful to look at what actually should get paid, i.e. what *form* the compensation should take. To begin with, a combination of ex-post and ex-ante compensation seems reasonable. The general aim of such a scheme is to avoid as much harm as possible by financing adaptation projects and programs in developing countries (prevention pillar). Since it is far from possible to prevent all harms the prevention pillar should be supplemented with an insurance pillar that combines some form of large-scale disaster relief and micro-insurance schemes (cf. Linnerooth-Bayer and Mechler 2009; Bals et al. 2006).²¹

Naturally, it is notoriously difficult – and perhaps not possible – to accurately calculate how much money will be needed for both pillars within the next years and decades. For the purpose of this paper information about order of magnitudes is sufficient. To date, several estimates about adaptation costs in developing countries exist. The studies vary considerably in their methodology. All cost estimates are in the two-digit billions range though. Interestingly, more recent studies end up with higher numbers.²² A reason might be their improved methodology. Still, all studies neglect some sectors or areas and each methodology suffers from some drawbacks (cf. Moore 2009; Persson et al. 2009; Parry et al 2009). If anything, the studies systematically underestimate adaptation costs in developing countries. Also, the estimates do not include costs for insurance schemes. This would add a significant amount to the total sum of compensation that is due. In consequence, agents responsible for compensating victims of climate change would have to provide no less than a two to three digit billion amount (USD) on an annual basis.

²⁰ When thinking about how to deliver compensation to those in need of it, three main steps are of crucial importance: i) which mechanisms are suitable to raise the required revenues (*funding*), ii) what (kind of) institution(s) is responsible for administering the funds (*channeling*), and iii) according to which criteria should the funds be distributed (*spending*)? In this paper I will deal with funding only.

²¹ For a critique of commercial climate insurance schemes see Duus-Otterström and Jagers (2011).

²² While a World Bank study in 2006 estimated that adaption costs in developing countries will add up to nine to 41 billion USD per year, a more recent study estimated that 75 to 100 billion USD will be needed annually between 2010 and 2050.

4.1 National Payments

The most prominent option is that nation states, which serve as the central entity within the international climate regime, are obligated to contribute a certain share of the overall amount of required resources. This is the approach that is currently taken. In Cancun in 2010 countries have agreed on establishing the so called Green Climate Fund that is to be financed by the developed countries. The aim of the fund is, amongst others, to finance adaption projects in developing countries. Obviously, this approach will lead to deeply problematic outcomes. Besides the fact that the consuming class in developing countries is not burdened at all, donor countries will not pay according to their GHG emissions and wealth respectively but according to their (political) willingness. A more just option would be to agree on a global burden sharing mechanism that is based on the aforementioned results and determines each countries share.²³ On the national level, appropriate instruments would have to be adopted to safeguard that within each country the right agents are made to pay. These instruments should target current polluters and (if necessary) beneficiaries of past emissions. Introducing a carbon tax/levy, greening the tax system as such or auctioning GHG-emission permits (e.g. within the current European Emission Trading System) are suitable instruments to account for the polluting component. Additionally, it is possible to introduce a property/wealth tax, to raise the income tax or both (benefiting component). In consequence, those individuals that are responsible for high emission and/or that possess substantial wealth contribute to the scheme.

But such an approach runs into two problems. First, due to national sovereignty it is not possible to monitor whether or not national governments adopt the ‘right’ instruments and target the ‘right’ agents respectively. Indeed, is it likely that governments will take the money from where they can get their hands on most easily.²⁴ A less pessimistic outlook acknowledges that governments will adopt a complex mix of instruments that may target some wealthy polluters as well. With a decent portion of realism I nonetheless claim that comparatively poor citizens will bear a significant amount of the national burden in the end. A second but related problem is that governments might not be willing to transfer a substantial amount of resources to an international body that is raised domestically (‘domestic revenue problem’). Even if the government itself is willing to do so, such plans would face massive

²³ An intensely discussed burden sharing mechanism is the prominent Greenhouse Development Rights approach (Baer et al. 2008); see also the proposal made by Oxfam (Raworth 2007) as well as the analysis of Müller et al. (2009).

²⁴ Likely candidates are cutting social welfare, pensions or expenses for education, culture, and art.

political opposition. These revenues are considered to be owned by the citizens and the public usually objects to such transfers.

In conclusion, even *if* the contribution of each country is determined by a fair burden sharing mechanism, it is questionable whether or not governments i) will comply with their obligation and ii) will make the right agents pay.

4.2 International Carbon Taxes

To circumvent the domestic revenue problem another proposal is to establish (carbon) taxes or levies at the international level. Several proposals are under discussion: a global carbon tax, a levy on international emission trading analogous to the Clean Development Mechanisms (CDM) Adaptation Levy, a levy on international air travel and/or on shipping (cf. Müller 2008, 9-21; Bapna and McGray 2008, 4-8). Indeed, the International Air Travel Adaptation Levy (IATAL) constitutes a promising approach that fits the results established above. The levy accrues to individuals performing a high polluting activity that are at the same time affluent (polluting beneficiaries), since it requires a certain level of wealth to undertake a flight.²⁵

Furthermore, the levy has a double positive effect. First, the demand for short haul flights will decrease resulting in fewer flights and thus fewer GHG-emissions due to the high price elasticity of demand. Secondly, significant funds would be raised from long haul business flights, in general having low price elasticity (Müller and Hepburn 2006, 35-37). An IATAL is suggested to raise between four and ten billion USD per year (ibid. 32). Although this is a considerable amount of money, it is not sufficient to finance adaptation in developing countries. Furthermore, it would target a specific form of mobility and thus applies to a distinct group of current duty-bearers only. Therefore, an international tax like IATAL seems to be a good starting point to generate a meaningful amount of resources.²⁶ In the medium term such a tax should be supplemented by further (carbon) taxes that operate in different sectors. A more radical approach would be to tax the use of fossil fuels upstream instead of

²⁵ The levy can be designed in a way that reflects both the emissions caused per person and flight (polluting component) and the ticket price as a proxy for capability (benefiting component) (in detail see Müller and Hepburn 2006, 30).

²⁶ Similar taxes already exist. In 2006 France established a levy on flight tickets of one euro on all European economy class flights (€10 in business) and €4 on international economy flights (€40 in business). The revenues (approximately 200 million euro per year) will be devoted to fight pandemics, including access to treatments for HIV/AIDS (ibid. 24).

downstream.²⁷ Then, fossil fuels could be taxed in the moment they are extracted from the ground and the costs would be passed down along the supply chain. A similar proposal will be discussed now.

4.3 Global Auction Scheme

A third option is to establish an international body that determines a global GHG emissions level (a global carbon budget) that decreases annually to prevent dangerous climate change. Permits to emit GHG are sold at an auction and all those agents that want to emit GHG must purchase permits to do so. The revenues of the auction are used to fund mitigation projects, fostering technological development and to finance compensational measures (Caney 2009, 140; in detail Tickell 2008). Another idea is to distribute half of the revenues to every human being on an annual basis (cf. Barnes et al. 2008). The auction proposal would raise substantial funds sufficient to cover expected compensational expenses, avoid the domestic revenue problem and aim at the ‘right’ agents – the polluters. A way to incorporate a benefiting component is to distribute some part of the revenue unequally among the people around the world: giving less to the rich and dedicating more to compensation and the poor respectively. This would conform to the claim made by the QBPP to redistribute wealth from the affluent to poor people negatively affected by climate change. In consequence, the scheme, once appropriately designed, makes the right agents pay.²⁸

Nonetheless, without a re-distributional element as proposed by Barnes et al. the scheme would be disastrous for the global poor. Due to increasing energy costs, millions of people would be unable to fulfill their basic needs. Therefore, such an option ought not to be pursued.²⁹ Another possibility is to exempt subsistence emissions from the auction scheme (cf. Caney 2009, 140). In this case it is not clear how to do so and it will also be complicated to determine (let alone agree on) subsistence emissions level for every individual or at least for every region around world. To distribute revenues to the global poor, on the other hand, faces serious challenges of its own.

²⁷ While downstream approaches tax the final consumption, in upstream systems taxation takes place closer to the point of production.

²⁸ The proponents of such an approach further argue that it integrates the different types of climate-related responsibilities (mitigation, adaptation, compensation) into *one* approach superseding single distributive principles for every type of responsibility (cf. Caney 2009, 140-1).

²⁹ The same holds true for a significant global carbon tax.

Taking into consideration the current situation in international climate negotiations, at present it is not possible to establish an international body with the authority to auction emission permits and to distribute the resulting revenues globally. Moreover, the lack in institutional structures both globally and locally does not allow for the implementation of such a scheme. Currently, a global auction and emission trading scheme belongs in the realm of political utopias.

5. Conclusion

To raise funds for those negatively affected by climate change in developing countries international carbon taxes are a good starting point. A global auction scheme that includes redistributive elements may serve as a remote goal. Once political realities have shifted towards a more cosmopolitan international system it might be worthwhile to pursue this option. For the time being, a combination of different approaches is most likely. For instance, it is discussed whether additional resources for the Green Climate Fund should be raised by implementing international carbon taxes on shipping or on financial transactions. In principle, this is a viable approach. Whether or not the approach is just depends on the particular funding components that are adopted.

I will end with some remarks concerning the significance of the QBPP. As mentioned in the introduction, many approaches in climate ethics propose a combination of PPP and ATP. The difference between ATP and QBPP is that the latter accounts for the causal link between harms and benefits while the former does not. For many people it seems to matter how things came about. They have a strong moral intuition that benefiting from past emissions matters, i.e. it does not only matter that duty-bearers are wealthy but it also matters how their wealth came about. The QBPP allows for this.

However, in defending the beneficiary approach it was moved closer to the ATP. First, in the case of climate change the QBPP makes sense only when benefits and harms are conceived in terms of absolute well-being/entitlements. Absolute well-being is a decisive criterion of the ATP that is now incorporated in the QBPP. Second, due to the global and intergenerational nature of anthropogenic climate change net-benefits can be determined only on a rather general level. Within the approach taken here, benefits must be measured in the same way as wealth (at least if wealth is not simply measured in terms of income or GDP but if the overall capital of an agent is considered). Thus, in practice QBPP and ATP coincide: both demand

redistribution from the wealthy to those victimized. Given these similarities one can argue that it is better to draw on the well-established ATP in the first place. Still, not only do people have different intuitions about the importance of causal connections but also do moral theories differ in their consideration of causal links. For instance, framing the issue of past emissions as ‘redistributing undeserved benefits and burdens resulting from climate change’ may be particularly adequate for luck egalitarians. The QBPP, therefore, further strengthens the case for additional resources transfers to victims of climate change that are desperately needed.

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