



Ten years to prevent catastrophe? Discourses of climate change and international development in the UK press

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ABSTRACT

The science of climate change is full of uncertainty, but the greater vulnerability of poor countries to the impacts of climate change is one aspect that is widely acknowledged. This paper adapts Dryzek's 'components' approach to discourse analysis to explore the media construction of climate change and development in UK 'quality' newspapers between 1997 and 2007. Eight discourses are identified from more than 150 articles, based on the entities recognised, assumptions about natural relationships, agents and their motives, rhetorical devices and normative judgements. They show a wide range of opinions regarding the impacts of climate change on development and the appropriate action to be taken. Discourses concerned with likely severe impacts have dominated coverage in the Guardian and the Independent since 1997, and in all four papers since 2006. Previously discourses proposing that climate change was a low development priority had formed the coverage in the Times and the Telegraph. The classification of different discourses allows an inductive, nuanced analysis of the factors influencing representation of climate change and development issues; an analysis which highlights the role of key events, individual actors, newspaper ideology and wider social and political factors. Overall the findings demonstrate media perceptions of a rising sense of an impending catastrophe for the developing world that is defenceless without the help of the West, perpetuating to an extent views of the poor as victims.

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1. Introduction

Climate change is big news, bigger news than ever before. Coverage of climate change in the United Kingdom (UK) 'quality' newspapers¹ has continuously risen since 2004 to a level that is more than double that of any previous peaks (Boykoff and Rajan, 2007). Yet climate change is still a contested issue in all its dimensions—scientific, political, economic and social (Carvalho, 2003). The mass media is a critical arena for this debate, and an important source of climate change information for the public (Bell, 1994; Wilson, 2000). Of course the relationship is neither simple nor one-dimensional; public views, politics and policy also affect the news agenda. But what is written in the media influences public perceptions and thence policy: it matters.

At the same time, there has been rising scientific and political concern about the potential impacts of climate change on international development, to an extent mirrored by a similar increase in media interest. This concern was epitomised in 2004 when a new coalition of environment and development charities and organisations came together to release a report warning that urgent action was needed to combat climate change if human development gains were not to go 'Up in Smoke' (Simms et al., 2004). The key issues are reflected in the academic literature, they concern: adaptation and vulnerability of the poor (e.g. Adger et al., 2003; Parry et al., 2001), climate-related disasters (e.g. Brooks and Adger, 2003; Schipper and Pelling, 2006), and mitigation strategies for developing countries (e.g. Chandler et al., 2002; Davidson et al., 2003). There is also a growing literature investigating climate change and the media. One theme has centered on identifying and theorizing the reasons behind the attention cycles of media focus on climate change (Brossard et al., 2004; McComas and Shanahan, 1999; Trumbo, 1996). A significant strand has looked at what influences media construction of climate change (Boykoff and Rajan, 2007; Dispensa and Brulle, 2003; McManus, 2000), including particular investigations into the influence of science (Taylor and Nathan, 2002), political actors (Carvalho, 2005),

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¹ Quality or prestige newspapers are former broadsheets which have national coverage and an emphasis on political and financial news and commentary. The newspapers included in the analysis are detailed in the section outlining the analytical approach.

newspaper ideologies (Carvalho, 2005, 2007), the sources used for articles (Antilla, 2005; Mormont and Dasnoy, 1995), reporters' knowledge about climate change (Wilson, 2000) and journalistic norms (Boykoff and Boykoff, 2004, 2007). More specifically, some have investigated the influence and translation of scientific uncertainty within the media (Ladle et al., 2005; Zehr, 2000). Others have looked at the accuracy of the media discourse on climate change (Bell, 1994), and how it relates to scientific (Nissani, 1999) and political representations (Weingart et al., 2000). Research has also investigated how the media discourse has affected public perceptions and understanding of climate change and climate risk (Carvalho and Burgess, 2005; Corbett and Durfee, 2004; Smith, 2005).

There has been no previous analysis of media portrayals of climate change and international development. Yet poor countries of the world and the poorest members of these societies are most vulnerable to climate change impacts (Parry et al., 2007), and thus they are a primary focus of initiatives for climate change adaptation policies. In addition, one of the current policy imperatives is to involve rapidly industrialising developing nations in international agreements for climate change mitigation. Furthermore, the UK government has chosen to take a lead in international action on climate change, both in terms of development assistance and through galvanising international initiatives via bodies such as the G8 and the European Union (EU). Public understanding and support for these actions is likely to be informed and shaped at least in part by media coverage. Analysis of the media discourses in the UK press can help to show how views are constructed and reflected, and ultimately how policy actions will be received.

This paper follows much of research into climate change and the media by using newspapers as the focus of analysis; because of their importance within the overall media discourse, and the relative ease of analysis. Although the body of research includes analyses of the press in Australia (McManus, 2000), Belgium (Mormont and Dasnoy, 1995), Finland (Dispensa and Brulle, 2003), France (Brossard et al., 2004), Germany (Weingart et al., 2000) and New Zealand (Bell, 1994), much of the work has focussed on the press of the UK and the United States (US). The analysis uses UK national newspapers.

There has been little attempt to classify different climate change discourses within the media in terms of their varying components such as language, assumptions and contentions. The research detailed above has largely tackled the media discourse as a whole. The only work that has verged on classifying discourses is a recent report for the Institute for Public Policy Research (IPPR, 2006), which looked at discourses within the mass media and more widely within society, in order to understand how best to convey the climate change 'story' to the public. This identified 11 'repertoires' regarding climate change based on shared 'systems of language' (IPPR, 2006:12), grouped into three overarching repertoires based on their understanding of the threat of climate change.

This research differs from the IPPR research, not only in focussing on *climate change and development* discourses, rather than just climate change discourses, but also in pinning down their content more precisely by using the discourse analysis approach of Dryzek (2005). Dryzek assessed the broad sweep of environmental discourses, classifying them in terms of: the basic entities constructed, assumptions about natural relationships, agents and their motives, and rhetorical devices. This paper demonstrates that this approach to discourse analysis can be usefully adopted for more specific topics such as climate change and development in the media. It is the contention of this research that the approach enables a more nuanced understanding of the portrayal of the issue

within the media, and gives a less subjective basis from which to investigate the influences on that portrayal, and understand how it might affect understanding and discourses in other spheres of public life.

The main research questions are therefore: How are the different discourses on climate change and international development constructed and represented by the British quality newspapers? Where and when are these discourses presented? What influences the portrayal of these issues in the press? What do the results suggest about general media perceptions of climate change and development?

2. Analytical approach

The term 'discourse' has many definitions (Apthorpe and Gasper, 1996); here it is understood as 'a shared meaning of a phenomenon' (Adger et al., 2001:683), consistent with Dryzek's idea of a 'shared way of apprehending the world' (2005:8). In terms of this research, this means shared ways of understanding climate change and international development, following the key issues outlined in Section 1.

A discourse approach recognises the importance of language in shaping our understanding of the world and our interactions within it. Each discourse is thus embedded within its own language, whilst also resting on shared assumptions and contentions about the world (Dryzek, 2005). Narratives or distinct storylines may be associated with a discourse and will portray heroes, villains and victims (Adger et al., 2001), and these archetypes are reflected in the analyses that follow.

Discourse analysis is subject to a diverse array of interpretations (Hajer, 1995). Different approaches are seen as fitting different purposes, with none claiming general veracity, and presuppose varying views of language and the important questions to ask of a text (Gee, 1999). Fairclough (2003) proposes two general forms of discourse analysis: 'Foucauldian', which pays little attention to linguistic features of the text and engages instead with social theoretical issues; and 'Critical Discourse Analysis', which advances a close linguistic analysis of texts. Van Dijk (2005) for example, has focused on the use of linguistic 'tools' to in critical studies of international news, racism in the press and the coverage of squatters in Amsterdam.

In adopting Dryzek's approach to environmental discourses (2005), the method adopted here draws upon both these forms of discourse analysis, but avoids the narrowness of strict linguistic analysis and the broad generalisations that characterise ideological analysis (Macdonald, 2003). Here discourse analysis is taken to mean an attempt to identify the key components of different discourses, e.g. the language used and the common assumptions. The approach also borrows from that adopted by Carvalho (2000) for the analysis of media texts. Whilst aspects of her methodology are similar to that of Dryzek, she also explicitly outlines normative judgements, aspects which seem pertinent to this topic. Together, these approaches form the analytical framework outlined in Box 1.

This approach departs somewhat from that of Dryzek's analyses. He searches for the most fundamental components of discourses, such as the relationship between humans and nature. This seems most appropriate for the broad platform of universal environmental discourses that he addresses. Here, the analysis is of a much more specific issue; consequently the discourse components identified are less generalised. In particular, the understanding of natural relationships slightly differs: rather than simply the relationships that are assumed normal between different entities, it is taken to also include ideas about what the effect of climate change will be, and what solutions will work.

Box 1. Analytical framework for discourse analysis of newspaper articles.

1. *Surface descriptors* These specify the newspaper, author, date, page, section, word count, title of the article
2. *Basic entities recognised or constructed* This represents the ontology of the discourse; how climate change phenomena are understood, the authority given to different sources of information, and the role of science and scientific evidence
3. *Assumptions about natural relationships* The likely impacts of climate change in different parts of the world; where, when and how the effects will be experienced; degree of uncertainty; possible solutions
4. *Agents and their motives* Who the key actors are, their interests and their motives (the heroes and villains)
5. *Key metaphors and other rhetorical devices* These are deployed to convince readers by putting a situation in a particular light
6. *Normative judgements* What should be done, and by whom, to solve climate change and international development issues, and the extent to which these issues should be a priority

Adapted from Dryzek (2005) and Carvalho (2000).

This approach represents a significant departure from most previous efforts to understand the construction of climate change in the media and the influences on it. In investigating specific influences, researchers have frequently adopted a rather deductive research process: identify a possible factor influencing newspaper coverage of climate change, perform a discourse analysis of climate change in the media with this in mind, produce results showing that factor's influence on coverage. The method of discourse analysis adopted for this research is more inductive. Instead of identifying potential influencing factors in advance, the first step lies in laying out the fundamental components of different discourses. Once discrete discourses have been identified, simple descriptive statistics can be used to analyse where and when they were represented. Investigation into the factors influencing the construction of the different discourses can then be pursued from a more nuanced and less subjective basis. This method is therefore consistent with MacDonald's (2003) approach to media discourse, which embarks with openness as to the discourse patterns that may emerge from the reading of media texts.

Searches for articles were performed using ProQuest online search engine for the period 30 June 1997 to 30 June 2007. This period was selected as it covered a number of important climate change related events, from the formulation of the Kyoto Protocol to the publishing of the latest Intergovernmental Panel on Climate Change (IPCC) reports; it was hoped that there would be an appropriate number of articles for analysis; it would allow an assessment of how the representation of discourses had changed over time; and it was thought that the most recent coverage would be the most interesting to research.

The papers covered were The Daily Telegraph, The Times, The Guardian, The Independent, and all associated Sunday papers. Carvalho (2005, 2007) analysed articles from the last three of these papers, arguing that they represented the cross-spectrum of political ideologies, set the agenda for other papers, and that the debate on climate change was excessively simplified or excluded in other papers. Her omission of the Daily Telegraph coverage seemed to negate her proposition that the full political spectrum was covered, so this is included for analysis within this research. The selected articles included news items, editorials, opinion pieces,

comment and analysis. The analysis does not disaggregate these pieces, although such analysis could separate the actual news discourse from that of politicians and other interest groups. However the intention is to provide an analysis of the media discourse across these categories. Letters to the newspaper were excluded as these were often too short for useful analysis. The aim was to find articles with a central focus on climate change and development issues. The process resulted in a database of 158 articles.

Each selected article was analysed by applying the framework outlined in Box 1. Five overarching stances were identified and each article placed within a stance. Then eight discourses were more precisely defined with reference to the articles, and by examining the actual statements made, the choice of words and the implied assumptions. Finally, simple descriptive statistics were used to aid examination of the influences on discourse formulation and newspaper coverage.

3. Characterising the discourses

Five general stances regarding climate change and international development were identified from the broad spectrum of discourses present in the UK quality press. The first stance views climate change as beneficial for development, a position which all the other positions oppose. The second stance affirms that climate change is a low priority for development and it will be better to deal with it as it occurs. A third stance suggests that the key to preventing serious consequences for development is mitigation, though the discourses conforming to this stance differ in their understanding of which countries should take action and who is to blame for stalled negotiations on climate change. Next comes a stance which presents a set of discourses based on crisis narratives that insist climate change will have disastrous impacts on development, but which differ in how those consequences are represented and the appropriate solutions suggested. A final stance holds that tackling climate change is an opportunity to achieve clean and sustainable development for the poor. The stances and associated discourses are outlined in Table 1.

The discourses are described below. Each discourse is introduced by some illustrative quotes and a brief outline of the basic storyline or the narratives associated with it, and followed by a summary of the discourse components.

3.1. Discourse 1. Optimism: climate change will be beneficial

'another group of academics has begun fighting to have its voice heard ... They have found that a hotter planet brings with it many benefits, and that humans can adapt perfectly well to it.' (Matthews, Telegraph, 12.6.05)

Table 1

Five overarching stances and associated discourses regarding climate change and development in the quality newspapers.

Stances	Discourses
1. Climate change will be beneficial	Optimism
2. Other development issues should be tackled first	Rationalism
3. Mitigation is the key	Ethical mitigation Self-righteous mitigation
4. A crisis, climate change must be tackled urgently	Disaster strikes Potential catastrophe Crisis
5. Overcoming climate change can help the poor	Opportunity

'The world is in much better shape than this doomsday scenario paints ... If climatologists can't get the present right, how can we trust them with the future?' (Wigmore, *Times*, 20.2.01)

Optimism differs from all the other discourses by viewing climate change as no problem for development, in fact, if anything, it is seen to be beneficial. Most climate predictions and their likely effects are viewed with scepticism and climate scientists are seen as doom-mongers; instead authority is given either to the author's views or scientists that support the discourse of future benefits. This optimism is partly based on the perceived benefits that past warmer climate episodes have brought. As climate change is going to be beneficial, there is no need to do anything to combat it. The possibility of future problems is broached, but at the same time dismissed by borrowing from the discourse of *rationalism* in suggesting that we will have no trouble in dealing with them as they occur, and that we should be concentrating on the current poor rather than the future rich.

3.2. Discourse 2. Rationalism: other development issues are more important, we should deal with climate change as it occurs

'The cost of halting climate change now is unaffordable and would be borne mainly by developing countries ... We need to compare that number with the cost of dealing with the change as it occurs' (Portillo, *Times*, 26.6.05)

'The trouble is that the climate models show we can do very little about the warming ... So action on global warming is basically a very costly way of doing very little for much richer people far into the future.' (Lomborg, *Telegraph*, 28.10.04)

Although *rationalism* accepts that climate change could well cause problems, even severe ones in the developing world, it differs from the discourses that follow by claiming that it is a low priority for development, and that attempting to tackle it directly through mitigation and/or adaptation action is not the answer. Predictions of climate change impacts are very uncertain so it is difficult to know how to prepare adaptation strategies, whilst attempts to reduce carbon dioxide emissions are pointless. Implementing Kyoto would, after all, only delay the onset of climate change by six years.

The only way of assisting the developing world to cope with climate change is to help it to get rich, and first combat the more important problems such as AIDS and water contamination. This can be done directly through aid transfers, or indirectly through those tools best designed to achieve humanitarian aims: the market, trade and investment. Attempts at mitigation will be prohibitively expensive, reducing global Gross Domestic Product (GDP) to such an extent that the potential of these tools will be greatly reduced. If we don't waste money on mitigation, people in the future will be richer, and thus best equipped to cope with a problem that is based in the future rather than the present.

Thus the 'developing world' is unhappy about the West's current focus on climate change, although there are no representations from its people. Instead, authority goes to economists whose impartial analyses help us to delineate our priorities logically, whilst those doom-mongering climate scientists and environmentalists are the villains, going beyond their remit when proposing actions, and should be ignored.

3.3. Discourse 3. Ethical mitigation: the West must lead

'China will only act on climate change if we lead by example ... why should a developing country volunteer for the front line

when the richest and most advanced won't even join the army?' (Hilton, *Guardian*, 21.6.07)

'Developed countries are responsible for the entire global warming so far, hence it is for them to reduce their large carbon emissions.' (Joseph, *Guardian*, 5.11.06)

For *ethical mitigation*, the current Chinese and Indian positions are reasonable: per capita and historical responsibility factors dictate that the West should show the way by cutting emissions first. Future negotiations should therefore be based on the principle of contraction and convergence. Such efforts would enable developing countries' economies to grow in an environmentally friendly way.

As western populations are demanding action on climate change, the failure to set worthwhile carbon dioxide limits lies with governments. The EU is currently at least doing its best to set targets; the criminal is thus the US, which is blocking negotiations for selfish reasons and being influenced by devious multinationals.

3.4. Discourse 4. Self-righteous mitigation: Indochinese position threatening

'The developing world's resistance to Western-led initiatives over climate change stepped up yesterday when China rejected the European Union's key global warming target.' (Spencer, *Telegraph*, 5.6.07)

'In a thinly veiled critique of India's stance that the developed world must cut emissions before asking poor, developing countries to accept national targets for emissions reductions, Mrs. Beckett said that only action from both sides would stave off potentially catastrophic economic and environmental changes.' (Clover, *Telegraph*, 4.11.06)

Self-righteous mitigation takes the view that it is China and India who are stalling the negotiations, caring only for their own economies and thus allowing the US to hide behind their stance. In fact, there is a divide between the West, which is trying to tackle climate change, and the large emitters of the developing nations, who care only for their economic growth. The rapid growth based on fossil fuel consumptions that these countries are currently undergoing is terrifying, and must be reined in at the same time as western governments start cutting emissions if we are to make any progress. Indeed it is pointless to start acting on mitigation if developing country emissions are not part of targets.

The next three discourses all concentrate on the disaster in the making that is climate change. They are rich in imagery, metaphors and dramatic language.

3.5. Discourse 5. Disaster strikes: look what's happening already, something must be done

'All my life the earth has told me when the rains are coming ... I don't understand what is happening to our lands ... every year it is getting worse' (Kelly, *Guardian*, 29.5.07)

'Peru's glaciers are melting ... In the north of Kenya, unprecedented droughts have driven herdsmen into deadly battles for the few water holes ... Across the developing world, man-made climate change is an indisputable reality' (Howden, *Independent*, 29.5.07)

'They're going under: two islands have disappeared beneath the Pacific Ocean – sunk by global warming. This is just the beginning' (Lean, *Independent*, 13.6.99)

Disasters strikes seeks to show the terrible consequences that dangerous climate change is already having on the developing world, a world more differentiated than in previous discourses, but also seen to be uniformly under attack. Whilst it is acknowledged that most scientists refuse to link current disasters directly to climate change, it is clear that there is some connection, and that there has been an increasing trend in the number and ferocity of natural disasters over the past few years.

Non-Governmental Organisation (NGO) reports and, uniquely, the voices of local people are given authority in demonstrating that climate change is already having devastating effects. The poor in the developing world, directly dependent upon nature for their livelihoods, are powerless in the face of this unprecedented threat. Although the outlook is therefore bleak, some of the worst can be prevented if the West takes action urgently, although *disaster strikes* is quieter than the other crisis discourses on what needs to be done.

3.6. Discourse 6. *Potential catastrophe: rich must act soon, but no need for upheaval*

'EU warns of global climate chaos: report forecasts wars, famines and migration: strategy aims for world's first low-carbon economy' (Gow, *Guardian*, 11.1.07)

'West's failure over climate change will kill 182 million Africans' (Thornton, *Independent*, 15.5.06)

'Ten years to prevent catastrophe' (Meacher, *Times*, 10.2.06)

Potential catastrophe instead relies on modelling that shows the terrible impacts that unchecked climate change will have in the future throughout a developing world that is already environmentally fragile and under stress from population growth and resource scarcity. Climate change is inextricably linked to other issues such as poverty and threatens to reverse western-led efforts on human development in the poor world. There is no point in ignoring climate change and tackling other issues first such as poverty or malnutrition, as advocated by *rationalism*, if climate change will destroy all that progress and economic growth will leave the environment incapable of recovery.

NGO reports and some scientific papers reinforce the horrific consequences that are likely to be visited upon the earth. Clearly the rich West is to blame, and particularly multinationals that influence government policies and exploit the developing world.

So what to do? *Potential catastrophe*, as well as looking to the future rather than the present, concentrates much more on what must be done to reduce the impacts of climate change than *disaster strikes*. The developing world is right to be suspicious of the West, but this is where the money to mitigate and adapt must come from. The people of the West urgently need to force their governments to act; there is not much time left. They can do this safe in the knowledge that there is no need for upheaval within their lives, or within the wider global system. Instead, we need a shift in our moral code and a subsequent proportionate transfer of funds to developing countries, as well as widespread action on mitigation. Although, some worrying effects of climate change are inevitable, these actions will surely prevent the worst.

3.7. Discourse 7. *Crisis: the only potential saviour is upheaval*

'Climate change cannot be tackled if existing injustices in global politics are overlooked ... we need reform of the world's political, financial and trade systems' (Gumede, *Guardian*, 12.6.07)

'The comprehensive upheaval that walks hand in hand with a warming world will make poverty eradication impossible.' (Simms, *Independent*, 2.10.06)

'We need a new ethic of global stewardship' (Doyle, *Independent*, 15.3.01)

Crisis portrays an even more severe vision of the future effects of climate change on the world. Drastic consequences are pretty much taken for granted, although the very worst effects can be prevented if appropriate action is taken. The West is to blame, indeed their actions can be seen as malicious as the full consequences of fossil fuel consumption are well known, and they have racked up a huge ecological debt that makes a mockery of the current ideas of debtors and creditors at the global scale.

The action that is deemed necessary to avert the worst effects comes from the belief that the world needs a new direction that takes it away from the illegitimate economic models that currently support the world order. The environment needs to be seen as underpinning life, and we need to restructure our institutions and systems to take account of this reality, and bring true equity across different peoples. Only through such drastic measures can climate change be truly tackled.

3.8. Discourse 8. *Opportunity: overcoming climate change can help the poor*

'simple renewable energy technology can be used both to adapt to the threat of climate change and also lift people out of a subsistence existence' (Vidal, *Guardian*, 16.12.06)

'Yet the problem also offers Africa a huge opportunity. Funding renewable technologies, such as solar and wind, will help tackle climate change. But at the same time it could energise and empower the economic development of the continent.' (Odingo, *Independent*, 15.5.06)

Opportunity is the least robust of the discourses, with the few conforming articles containing components of the other discourses that view climate change as an important problem for international development. They are, however, linked by framing its emergence in the global consciousness as an opportunity. The opportunity lies in the benefits for the developing world to be had from switching to clean energy, and in kick-starting a move towards sustainability. Harmonising economic growth and environmental protection is possible in new ways, whether through practical adaptation action or the export of clean energy from developing countries.

Table 2 gives a summary of the different discourses, including the main similarities and differences. This shows how they are distinguished and how they are constructed through the basic entities recognised; the assumptions about natural relationships; the agents; metaphors and rhetorical devices; and normative judgements. The sources of authority range from climate science, sceptical science, to NGOs and to individual authors and campaigners. The cast of heroes and villains change dramatically. Powerful rhetorical devices are used; importantly metaphors of war and destruction and floods – often almost biblical in their dramatisation – are prevalent. The constructed discourses offer a wide range of solutions to be taken regarding climate change and development. Having identified and characterised each discourse, the discussion now explores where and when each of the discourses were represented in UK quality newspaper coverage of climate change and development during the past decade.

Table 2

A summary of the different discourses, showing the important similarities and differences.

Discourse	Basic entities recognised	Assumptions about natural relationships	Agents and their motives	Metaphors and rhetorical devices	Normative judgements
Optimism	Climate change science very uncertain	Models unreliable	Developed countries will benefit; some developing ones too	Reassurance, optimism	We do not need to worry about climate change so should not do anything about it
	Past warm periods beneficial for humans Natural climate variability Authority to sceptics	Climate change will be beneficial overall Human ingenuity will overcome problems	Low-lying countries only losers Doom-mongering scientists going beyond their remit	Weather forecasts are wrong, therefore climate predictions wrong 'The Little Optimum' (1100-1300 AD)	
Rationalism	Science still uncertain, especially about impacts	Mitigation is ineffective and expensive	Economists identifying objective priorities	Kyoto as a metaphor for effect of mitigation; will only delay impacts by 6 years	Help the developing world through trade, investment and aid
	Climate change is a problem, but catastrophic effects and more than 2 °C change very unlikely Authority to economists, Lomborg and cost benefit analysis	If poor become richer they will be better able to cope Climate change a problem for the future	Doom-mongering scientists (IPCC) politicking Use of market's invisible hand Developing world annoyed by the West's priorities	Mitigation delaying flooding of poor peoples' graves Global warming a dogma flooded with eco-hype	Money spent on climate change is wasted Need to focus on current problems, not future ones
Ethical mitigation	Atmosphere is manageable and climate usually stable 2 °C change dangerous	Mitigation and targets the key Stopping climate change, growth and development are compatible Delays unacceptable	Governments influenced by vested interests are the key agents China and India important but will follow West's lead	Room in the atmosphere A war against climate change	West must lead on mitigation; fund clean development China and India have right to develop—we must help make it clean
	Tipping points exist		USA as villain; EU and UK potential heroes Public wants action	Urgency and deep concern	
Self-righteous mitigation	Atmosphere as manageable and climate usually stable 2 °C change dangerous	Mitigation and targets the key Incentives necessary not sanctions	India and China are key—but stalling action in own self-interests EU and UK doing what they can	Chinese growth scariest thing on Earth Room in the atmosphere	Developing countries should do more Developing and developed countries should commit to emissions cuts together
	Tipping points exist	Developing countries' emissions critical Divide between developed and developing world on mitigation	Must get developing countries on-board otherwise all efforts futile	Targets the key	
Disaster strikes	Climate change already here; models show it will worsen Increasing disaster trends linked to climate change	Climate change is and will be disaster for the poor Climate change biggest ever threat to planetary survival	Developing countries—already affected West are villains, poor are powerless victims, agency to rich governments	Islands and coastlines going under Frontline of global warming/a war against climate change	The rich West must act to slow change and pay for poor's adaptation
	Authority to NGO reports and environmentalists, some science backing, and to local people who understand and experience climate change	A problem for the present Can prevent worst if take action now	Poor already suffering, least able to adapt and least responsible Poor begging world to act	Weapon of mass destruction	
Potential catastrophe	2 °C warming a dangerous tipping point before runaway change	Interlocking stresses on poor	Multinationals evil	We are our own worst enemies in war against climate change	Precautionary principle

Models accurately predict dangerous climate change soon if nothing done Authority to NGO reports some science (IPCC)	Necessary changes can be made without overly damaging western lifestyles	Rich protecting themselves	Urgency, irreversibility, dramatisation	Responsibility lies with developed countries
Models give accurate predictions	Suicidal global economic model—need new mode of development	Lack of political will by rich governments	Close to point of no return, deep urgency	We must not betray future generations
Dangerous climate change already here, imminent environmental collapse possible Authority to NGO reports, authors' own opinions, Simms	Climate change likely to cause global upheaval	Multinationals and rich selfish—West actively harming poor	Society needs a change of course	Need new ethic of global stewardship
	Can tackle climate change without stalling world economy	Governments to act	Ecological debt	Need new economic model—based on ecology and equity
Opportunity		Poor countries and poor people are in trouble—but can adapt with sufficient support Clean technology can be used to 'leapfrog' West No harm to developed countries in supporting clean development in South	Concern, but opportunity hope and optimism	Differential responsibilities but West must lead and foot the bill
				Per capita contraction and convergence as solution

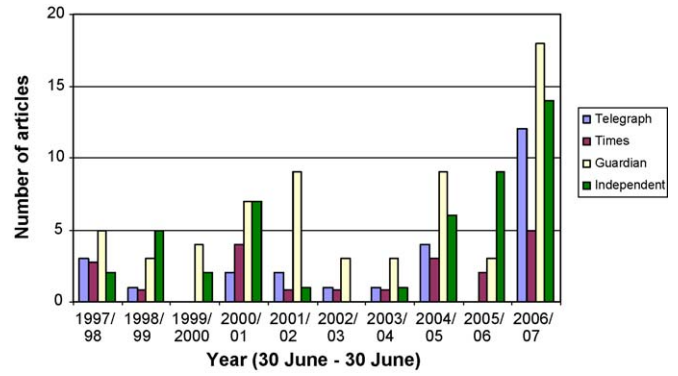


Fig. 1. Appearance of climate change and development articles in UK newspapers in the past decade.

4. The representation of discourses in the UK 'quality' newspapers during the past decade

The 158 articles focusing on climate change and development in the past decade were distributed far from evenly across the quality newspapers: the Guardian published 64, the Independent 47, the Telegraph 26, and the Times 21. Fig. 1 shows, however, that trends in coverage were fairly consistent across newspapers: there were peaks in 1997/1998, 2000/2001, 2004/2005, and then the largest peak in all newspapers in 2006/2007 (years start and end on 30 June).

Fig. 2 shows that *potential catastrophe* was by far the most common discourse during the past decade with 51 articles, well over double the number of the nearest competitor, *rationalism*. *Ethical mitigation*, *self-righteous mitigation*, *disaster strikes* and *crisis* were all represented by between 10 and 20 articles, whilst *optimism* and *opportunity* corresponded to only 5 articles each.

Fig. 3 shows the trends in coverage of the different discourses over the past decade. *Optimism* and *opportunity* are removed to make things clearer, as they appear so rarely. The bar graphs show that although the peaks in 1997/1998 and 2000/2001 were made up of almost all the different major discourses featuring roughly proportionately to their overall number of appearances, this relationship breaks down from 2004/2005 onwards. *Potential catastrophe*, *rationalism* and *disaster strikes* all feature heavily in 2004/2005, whilst the other discourses disappear. From there, coverage of *potential catastrophe* increases dramatically to the extent that it formed virtually half of the total coverage in 2006/2007, but the number of appearances of *rationalism* and *disaster strikes* markedly decreases by 2005/2006. Whilst the peak in coverage in 2006/2007 is thus largely taken up by *potential catastrophe*, coverage of all the other discourses apart from *rationalism* also notably increases. The mitigation discourses have been evident particularly since 2005/2006, whilst the *crisis* discourse was far more prevalent between 1999/2000 and 2001/2002. It makes a brief re-appearance in 2006/2007.

Fig. 4 details which discourses were represented by which paper in each year. The discourse of *potential catastrophe* features heavily in the coverage in the Independent and the Guardian, comprising 45 per cent and 36 per cent of the articles published, but is only a minor discourse in the Times and the Telegraph. *Rationalism* is the commonest discourse represented in the Times (48 per cent of articles), and equal with *self-righteous mitigation* in the Telegraph (both 31 per cent of articles published). *Rationalism* is represented only very rarely in the Guardian and never in the Independent; *self-righteous mitigation* only very rarely in the Independent and the Times, and never in the Guardian.

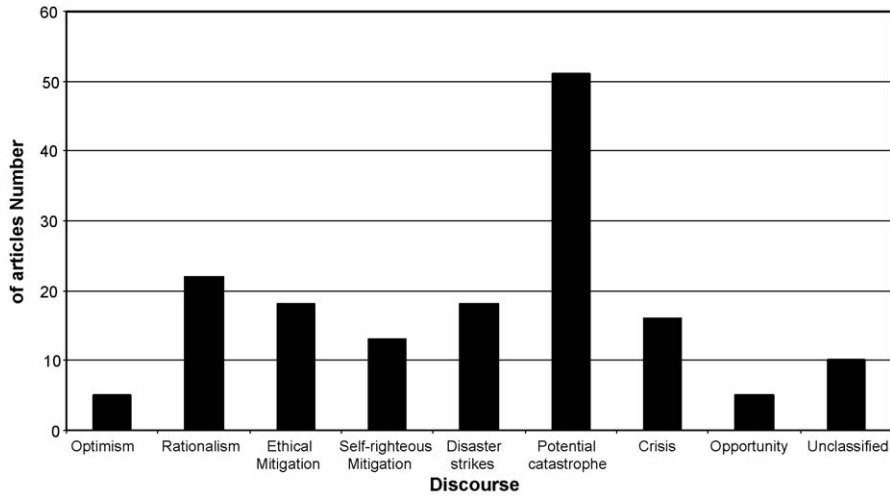


Fig. 2. Total number of articles conforming to each discourse published during the past decade.

The discourses of *disaster strikes* and *crisis* are prominent in the Independent and the Guardian, and *opportunity* very occasionally, but these three discourses are completely absent from the Times and the Telegraph. The Times and the Telegraph each published two articles representing *optimism*, the Guardian one, and the Independent none. *Ethical mitigation* is thus the only discourse that features more or less evenly across all papers in terms of the proportion of their overall coverage.

For the Independent, *potential catastrophe* has been relatively prominent throughout, though particularly so since 2004/2005. *Disaster strikes* and *crisis* came back to prominence in 2006/2007 after only appearing towards the start of the decade, whilst *ethical mitigation* has been a constant minor feature. Similarly, *potential catastrophe* has been important throughout the decade in the Guardian, increasing in 2004/2005, and in 2006/2007. *Crisis* and *disaster strikes* have maintained a relatively constant low profile, although *crisis* has appeared less in recent years, whilst *ethical mitigation* made a comeback in 2006/2007 after featuring in early coverage. *Optimism* and *rationalism* formed the basis of the coverage in the Daily Telegraph and the Times between 2000/2001 and 2005/2006, but coverage in 2006/2007 was completely different, with *potential catastrophe* and the mitigation discourses, particularly *self-righteous mitigation*, coming to the fore.

5. What has influenced the coverage of climate change and development in the UK press?

Much of the research into climate change coverage in the press has focused on analysing the factors influencing when articles

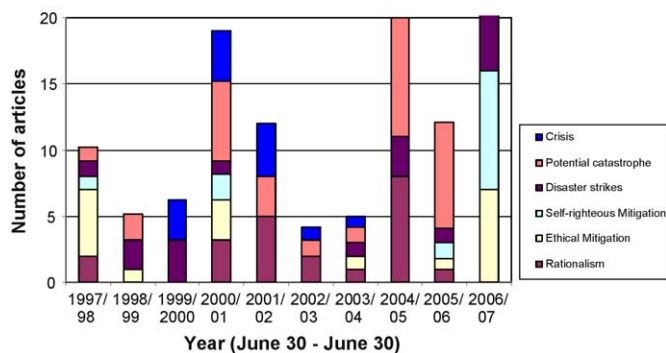


Fig. 3. The major discourses represented in newspaper articles across the past decade.

appear and how climate change is portrayed. Recent work focussing on the UK press has discussed the range of influences involved (Boykoff and Rajan, 2007), examined the contribution of science to media articles (Taylor and Nathan, 2002), and looked at the reasons for differences in coverage across newspapers (Carvalho, 2005; Carvalho and Burgess, 2005). This section assesses whether factors identified in previous studies may have influenced coverage of climate change and development. First it considers whether the coverage coincides with key events. Then it examines whether notions of balanced reporting, journalistic norms, newspaper ideology, the sources used, or wider economic and policy factors influence coverage.

Fig. 5 highlights some key climate change and development events that coincide with the years of peak coverage across all newspapers. Initially, the relationship holds up well; a reading of the articles shows that a large majority of those published in 1997/1998 draw directly from action surrounding the Kyoto protocol (e.g. ‘International: rich and poor countries clash over pollution’, Clover, Telegraph, 6.12.97; ‘Three days to save the world’, Independent, 8.12.97). The same is true of the follow-up Buenos Aires meeting in 1998/1999 (e.g. ‘In Buenos Aires, a clash of cultures looms over climate change’, Pearce, Guardian, 29.10.98). From there, however, the apparent link breaks down. Although several of the articles in subsequent peaks report directly on the events highlighted, and it is possible that other articles are more indirectly influenced, there is clearly a more complex process in play.

The importance of key events becomes more evident when coverage is broken down according to the different discourses. The trajectories of the two most popular discourses, *rationalism* and *potential catastrophe*, are displayed in Fig. 6. *Rationalism* has two major peaks: 2000/2001–2001/2002 and 2004/2005. These correlate directly with the two key events for this discourse, the publishing of Bjorn Lomborg’s ‘Sceptical Environmentalist’ in 2001 (Lomborg, 2001), and Lomborg’s Copenhagen Consensus meeting of economists in 2004. Looking at the articles, these two events did indeed have an important direct influence on the volume of coverage: between 2000/2001 and 2001/2002, of the nine articles published pertaining to *rationalism*, two were written by Lomborg, and five others focussed directly on the content of his book, whilst in 2004/2005, out of eight articles, four were written by Lomborg and two others concentrated on the findings of his research.

For the *potential catastrophe* discourse, there are less straightforward links with events. Of the six articles published in 2000/2001, two report on the findings of the IPCC, whilst three others

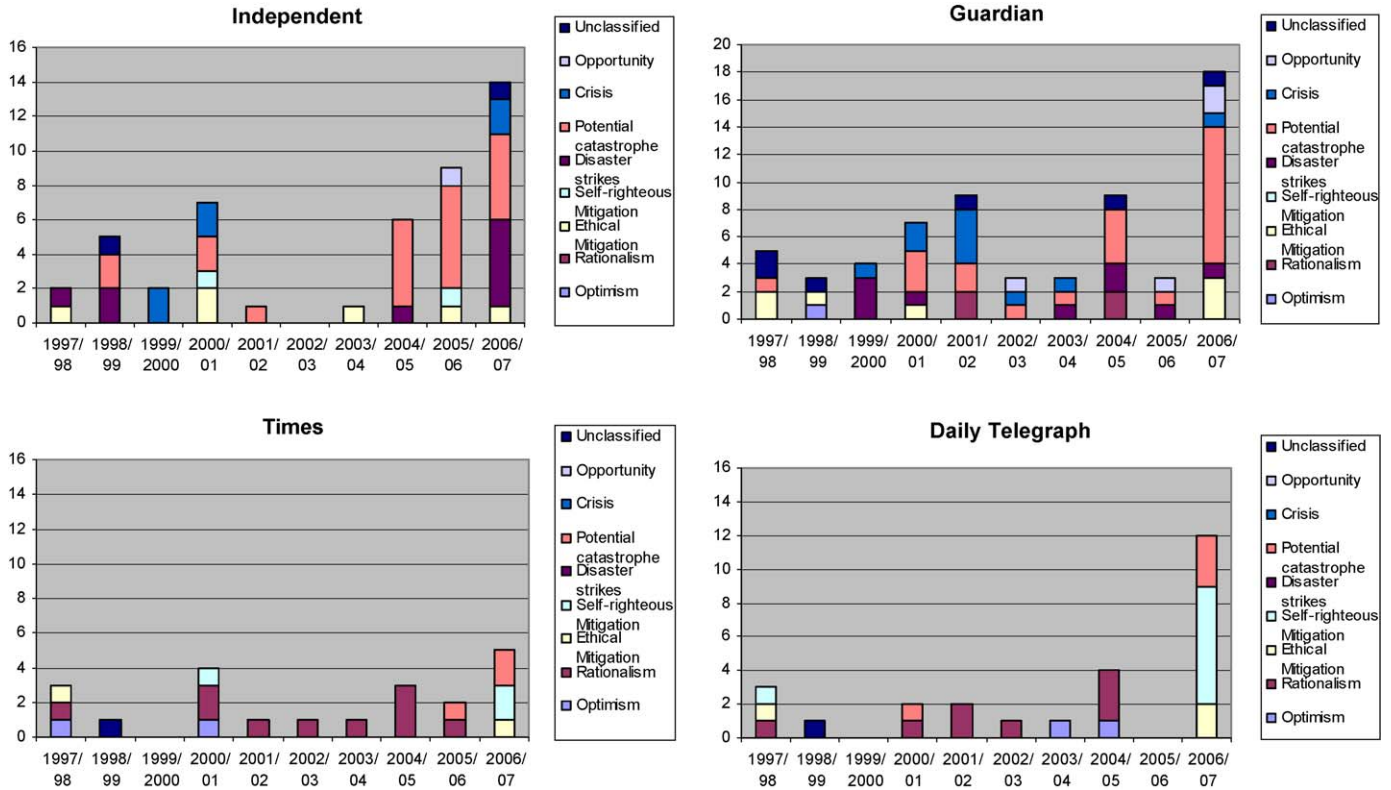


Fig. 4. Discourses represented in each newspaper across the past decade.

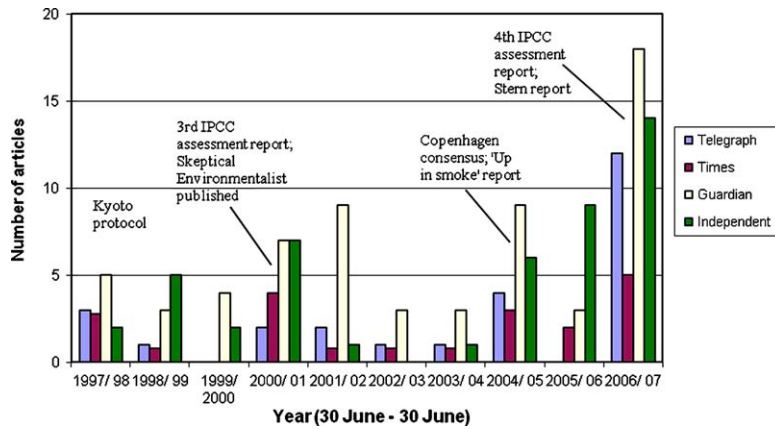


Fig. 5. Critical discourse moments for climate change and development in the past decade.

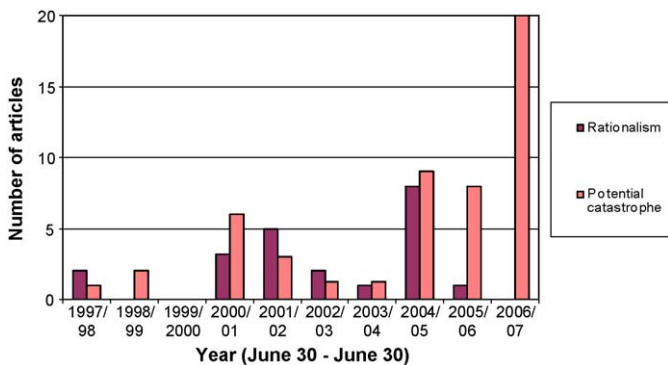


Fig. 6. Representation of the two major discourses during the past decade.

relate to various reports by NGOs and insurance experts. In 2004/2005, two articles report on the 'Up in Smoke' report (Simms et al., 2004), four are written by establishment figures, and two more cover other NGO reports. In 2006/2007, the IPCC and Stern reports are the focus of less than half of the articles, with the rest based on other reports and the announcements of establishment figures, notably Rt. Hon. Margaret Beckett MP, then British Foreign Secretary.

It thus seems likely that a range of other factors are also influential. For example, Boykoff and Boykoff (2004) looked at how the widely accepted journalistic norm of balanced reporting influenced the translation of climate change in the US prestige press. They compared the scientific discourse with that in the media, finding that views contrary to those of the scientific mainstream were presented so frequently as to give an impression that the debate about anthropogenic influences on the climate was

still wide open, when instead there were only a few sceptics in the scientific community questioning the role that human activity was playing. Adherence to the norm of balance was thus leading to biased reporting.

The results presented here inform this finding from an alternative perspective. Instead of examining each article internally to assess whether it is affected by an effort at balanced reporting, we can look at the overall portrayal of discourses within different papers. If journalistic norms such as balance were important in the UK, then each newspaper might aim to have given a more or less equal coverage of the different discourses.

Instead, Fig. 4 shows that the crisis discourses together take up over two-thirds of the coverage in the Guardian and the Independent, and that the discourse of *rationalism* completely dominated coverage in the Daily Telegraph and the Times from 2000/2001 until 2005/2006. Clearly this does not indicate a strong attempt to represent a balanced mix of the different views surrounding climate change and development. Interestingly, however, all newspapers represented the highest number of different discourses in 2006/2007, although of those given space, all demand urgent action on climate change.

In a later paper (Boykoff and Boykoff, 2007), the authors build on their earlier work to examine attention cycles in the US prestige press. They found that adherence to journalistic rules on what makes a good story such as dramatisation, personalisation and novelty affected whether climate change was reported in the press. These journalistic norms mediated the influence of scientific, political and meteorological factors in producing spikes in coverage. In addition, these basic norms in turn influenced the application of deeper norms such as a desire for achieving balanced reporting, affecting the accuracy of coverage. In short, these 'cultural factors' went a long way to explain why media coverage of climate change had not been even-handed.

It seems again that the influence of the various journalistic norms differs between discourses. Dramatisation is certainly important for the crisis discourses ('African Apocalypse', Lean, Independent, 29.10.06; 'Ten years to prevent catastrophe', Meacher, Times, 10.2.06), but less so for others such as rationalism or opportunity. Personalisation is particularly evident in the *disaster strikes* discourse where the voices of local people are heard ('We feel we can't be the guardians of the land like our ancestors anymore and we don't know what to teach our children', Kelly, Guardian, 29.5.07; 'I am 70 years old now, and the temperatures are getting hotter and hotter as the years go by', Lean, Independent, 29.10.06), but largely absent from both the mitigation discourses, where countries are the entities and actors recognised. Novelty is no doubt important at various points in all the discourses, but it is unlikely to explain the recent large spike in coverage.

Carvalho (2005, 2007) and Carvalho and Burgess (2005) looked at how newspaper 'ideologies' influenced coverage of climate change in the Times, the Guardian and the Independent. They found that, in general, climate change was ideologically constructed, with profound difference in its portrayal across different newspapers, differences which both represented and reinforced existing ideologies. Newspaper ideologies also mediated the influence of politics and science: newspapers were sensitive to shifts in these arenas, but only within the bounds of their ideologies.

The large variation in coverage across the different newspapers (Fig. 4) may be evidence to support this interpretation. The Times and the Daily Telegraph are 'conservative' papers, identifying with neo-liberal capitalism, the free market, a Promethean view of man's relationship with nature, and an aversion to political control (Carvalho, 2007). Hence their coverage between 2000/2001 and 2005/2006 consists of *optimism* and *rationalism*, discourses that

deny the need to do anything about climate change and shy away from the idea of potentially severe problems for the developing world. But what is it that causes their stance to change in 2006/2007? Surely the complete change in coverage takes them outside their ideological bounds?

The Guardian and the Independent are seen as supporting a social democratic ideology, with a global outlook and values of equity and solidarity (Carvalho, 2007). Hence their coverage is dominated by the crisis discourses and *ethical mitigation*, all demanding that urgent action is taken by the West to help the developing world. Whilst the Guardian gives space to *rationalism* in 2001/2002, its appearance in 2004/2005 has a distinct framing: Lomborg is called the 'controversial scientist' and one of the articles carries rebukes from environment and development groups (Vidal, 21.10.04). But why such a lull in coverage in the Independent between 2001/2002 and 2003/2004, followed by a surge? Perhaps the paper took an editorial decision in late 2004 to put climate change near the top of its agenda?

Various papers have shown the importance of journalists' sources in shaping media coverage of climate change (Antilla, 2005; Carvalho, 2005; Mormont and Dasnoy, 1995). Here, the interpretation of 'actors' is expanded to include organisations such as NGOs and the scientific community, the latter's influence investigated by Nissani (1999), amongst others. Different types of actors influence different discourses, as shown by who is given authority, outlined in the discourse summaries. An individual actor can be particularly important in influencing the appearance of a discourse, as with Bjorn Lomborg and *rationalism*. Similarly, Andrew Simms, the policy director of the New Economics Foundation (NEF), a leftwing think-tank, has been an important influence on the portrayal of *crisis*, writing 7 of the 16 articles to appear, and being heavily quoted in two more.

Other discourses rely on broad classes of actors. NGO reports and actors are particularly important for the crisis discourses, with a wide variety represented, though some come out as favourites, such as the NEF for the *crisis* discourse. Other NGOs whose reports feature, or whose employees are used for authority quotes include Christian Aid, Oxfam, Practical Action, and the Red Cross. No doubt there are myriad reasons why some NGOs feature more heavily, including the timing of release of reports and particular links between journalists and NGO employees.

Scientific papers are rarely used as the basis for articles. Although the IPCC reports are covered, particularly within the *potential catastrophe* discourse, the reports are in part a political process. Whilst scientists are sometimes used as sources to legitimate stories, their work can form the bulk of NGO reports, and there is even the occasional article written by a scientist, novel scientific findings are used only rarely as the basis for an article. Articles using contemporary scientific findings tend to concentrate on how new research has shown smaller or, more frequently, greater impacts of climate change (e.g. 'One third of the planet will be desert by the year 2100, say climate experts', McCarthy, Independent, 4.10.06). This is despite the fact that there is a burgeoning academic literature focusing on issues surrounding climate change and international development, often quite divergent from, and far more nuanced than, the media discourse.

Interestingly, the peaks in coverage (Fig. 1) are largely consistent with those for climate change alone (as reported by Boykoff and Rajan, 2007). Perhaps, wider social, political and economic factors can explain coverage. Is the sharp rise in coverage in 2006/2007 more a reflection of the greater political importance given to climate change and development, or of greater public concern about the issue, or the realisation with the publishing of reports such as Stern that it could have economic implications even for the developed world? Which of these factors has been

particularly important in the complete shift in coverage in the Times and the Telegraph? Whilst wider social and economic factors may remain harder to identify precisely, it is possible to trace the influence of some political factors and interventions. Political issues appear particularly important in the appearance of the mitigation discourses—understandably, considering their focus on international relations. Thus Kyoto was the basis of mitigation articles in 1997/1998, and various international disputes between China and India and the developed world, particularly in relation to the G8 meeting, formed the content of many of the articles in 2006/2007 (e.g. 'India challenges West over climate change', Foster, Telegraph, 13.6.07).

At a more specific level, there are times when the UK government has heavily and quite deliberately influenced the agenda. For example, the government's recent attempts to bring climate change discussion to the United Nations Security Council were the cause of a spate of *potential catastrophe* articles in 2006/2007 (e.g., 'Climate change could lead to global conflict, says Beckett', Borger, Guardian, 11.5.07). A few articles have even been written by politicians, with Rt. Hon. Robin Cook MP (10.6.05), former British Foreign Secretary, adding his voice to the *potential catastrophe* discourse.

Clearly a wide array of factors influence the media coverage of climate change and development, including several not examined here. Downs (1972), for example posits a theory of endogenous attention cycles. This discussion has highlighted some key issues, such as the strong influence of individual actors on two of the discourses, the divergent coverage between newspapers, roughly aligned with what one might term ideologies, and the marked tendency to use NGOs as sources rather than the scientific community, both in researching and legitimising articles.

6. Conclusions

The analysis of discourses in UK newspapers shows that the recent rise in coverage of climate change and development reflects an increasing sense of impending catastrophe regarding the impacts that climate change will have on development. Such a tone was already apparent in articles from the late 1990s (e.g. 'World facing plague of disasters', McCarthy, Independent, 24.6.99), so it is the marked change in the representation of the different discourses that best illustrates this rising sense of catastrophe. All the discourses other than *rationalism* and *optimism* show some degree of concern about the impacts of climate change and demand urgent action to reduce them. The most extreme of these stances, the three crisis discourses, dominate in the Guardian and Independent and represent virtually all the large increase in coverage of climate change and development issues in 2006/2007. Meanwhile *optimism* and *rationalism* disappear from the Times and the Telegraph in 2006/2007, having dominated before, to be replaced by the mitigation discourses and *potential catastrophe*.

Various authors have shown that the media frequently fails to convey scientific uncertainty regarding climate change accurately, tending to sensationalism and increased certainty (Ladle et al., 2005; Weingart et al., 2000; Smith, 2005). Hulme (2007) finds that this inclination to emphasise a crisis is apparent even in coverage of the most recent IPCC reports. In this light, sensationalism in the coverage can be seen as part of a development crisis narrative that ignores the complexity of the situation (Roe, 1991, 1995), although some recent papers have argued that there is now a valid academic discourse suggesting potential catastrophe (e.g. Hansen et al., 2007). Nevertheless, the discussion in the media clearly does not portray the uncertainty inherent in many aspects of our climate change understanding (Dessai et al., 2007).

Secondly, in all the discourses other than *optimism* and *self-righteous mitigation*, developing countries are portrayed as needing the help of the developed world if they are to deal with the impacts of climate change. There is little discussion of the agency of poor people in dealing with the impacts of climate change, nor the complex interplay of factors that will influence vulnerability and adaptation to climate change in the developing world (Adger et al., 2003). Only *disaster strikes* gives any voice to poor people in describing the impacts of climate change and how they might cope. In addition, there is very little differentiation in general regarding the 'developing world'.

In constructing, reconstructing and presenting these discourses the press accentuates and perpetuates widely held views of developing countries and the poor as hapless victims facing another set of disasters who can only be helped by the rich Western countries. That only 158 articles focussing expressly on climate change and international development were identified across all these newspapers in a decade reveals the priority given to climate change impacts in developing countries and the implications for development and poverty alleviation, by in the media. This reflects public interest and shapes public understanding and, to an extent, public policy. The impasse in designing and enacting international policy and agreeing effective support for developing countries in the face of climate change re-enforces and reflects these perspectives.

Most previous analyses of climate change in the media, by isolating a single potential influence on coverage, and then assessing its impact on the media discourse as a whole, have used a rather deductive methodology. It is our contention that the method advanced in this paper, classifying discourses and then looking at the different factors affecting representation of these discourses, has allowed a much more nuanced and balanced understanding of the various influences on media representation of climate change and development issues.

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