

SOLIDARITY, JUSTICE AND CLIMATE CHANGE LAW

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This think piece examines the concept of solidarity and contemplates the extent to which it is a relevant and valuable mechanism for the promotion of justice within climate change law. In particular, it is suggested that solidarity potentially offers greater depth and maturity than principles such as cooperation, which have previously been the focus of attention, thereby better reflecting the diversity and complexity of our international society. The climate change framework already features solidaristic measures in the form of the principle of 'common but differentiated responsibilities', flexible mechanisms such as the 'clean development mechanism', and the introduction of funding initiatives. It is concluded that whilst solidarity is a mechanism which demonstrates potential for further promoting justice within international climate change law, there remains considerable scope for further development in this area.

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I INTRODUCTION

A welcome shift is occurring within climate change law. Over recent decades we have witnessed the emergence of an international legal framework recognising the environmental and human impacts of climate change, identifying differentiated responsibilities between states, and (mostly) agreeing to initial emission reduction targets. The principle of equity has subtly influenced the development of the international climate change regime, but there now exists a more conscious and overt shift towards promoting ideas of justice and fairness within climate change law. Importantly, this extends not only to the drafting of texts setting out the rights and responsibilities of states but also to the implementation and practical application of climate change mechanisms. The objective of this think piece is to introduce the concept of 'solidarity' and consider the extent to which it is a relevant and valuable mechanism for the promotion of justice within climate change law. Due to the complex and integrated nature of the problem, heavy reliance is placed on the principle of cooperation within climate change law. However, it is argued that solidarity potentially offers a more composite and mature principle that better reflects the diversity and complexity of our international society.

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II THE PROBLEM OF CLIMATE CHANGE

As the problems posed by climate change increases, the consequences experienced by both humanity and the natural environment are becoming severe and widespread. In terms of the human impact, a recent report by the Global Humanitarian Forum, whose work specifically focuses on climate justice, indicated that climate change is already responsible for 300 000 deaths each year and is affecting 300 million people worldwide.¹ Furthermore, global economic losses due to climate change amount to more than US\$125 billion annually.² Unfortunately, however, future forecasts provide greater cause for concern. Current scientific predictions by the Intergovernmental Panel on Climate Change ('IPCC') indicate that average global temperatures are likely to increase during the 21st century by at least 1.8°C, although an increase of more than 5°C is not unlikely.³ It is widely recognised that one of the key challenges in relation to climate change is the scientific uncertainty surrounding climate modelling and future forecasts.⁴ Nevertheless, the estimates provided by the IPCC, the leading scientific climate research body, are (if anything) conservative in terms of predicting environmental change and consequent human impact and thus should be considered the very bare minimum of possible climatic change to be expected.⁵

The effects of rising global temperatures are likely to be experienced across every aspect of human life and will vary depending on the extent of the temperature increase. Whilst a 1°C increase in temperatures may initially support localised advantages — such as modest increases in cereal yields in temperate regions, or a reduction in winter mortality in higher latitude areas of Europe and the United States — there are likely to be equally disadvantageous impacts such as the disappearance of glaciers in the Andes, which would threaten the water supplies of more than 50 million people.⁶ In any event, localised benefits are likely to be short-lived before serious negative climate change is experienced.

The availability of water is perhaps one of the most problematic consequences of a changing climate: a temperature increase of 3°C could lead to up to four billion people experiencing water shortages.⁷ Some of the most immediate consequences of such water shortages concern food availability and health as agricultural yields decline, placing millions of people at risk of hunger and thereby promoting rates of death from malnutrition. However, whilst severe water shortages develop in some areas, other regions will experience enormous

¹ Global Humanitarian Forum, *Human Impact Report: Climate Change — The Anatomy of a Silent Crisis* (Report, 29 May 2009).

² *Ibid.*

³ IPCC, 'Summary for Policymakers' in Working Group I, IPCC, *Climate Change 2007: The Physical Science Basis* (IPCC Fourth Assessment Report, 2007) 13.

⁴ See Richard Kerr, 'Scientists Tell Policymakers We're All Warming the World' (2007) 315 *Science* 754, 754. For a detailed analysis of the modelling techniques currently used by the IPCC, see David Randall et al, 'Climate Models and Their Evaluation' in Working Group I, IPCC, *Climate Change 2007: The Physical Science Basis* (IPCC Fourth Assessment Report, 2007) 589, 589–662.

⁵ See, eg, Richard Kerr, 'A Worrying Trend of Less Ice, Higher Seas' (2006) 311 *Science* 1698, 1698–701; Kerr, 'Scientists Tell Policymakers', above n 4, 754–7.

⁶ Nicholas Stern, *The Economics of Climate Change: The Stern Review* (2007) 56–7.

⁷ *Ibid.* 76.

gains in water, typically in the form of flooding that threatens hundreds of millions of people, particularly those living in coastal areas. In addition to water and food availability, the changing climate has direct consequences for human health. Malnutrition poses perhaps the biggest risk, but the spread of vector-borne diseases demonstrates a considerable threat: a 4°C increase in global temperatures would expose an additional 80 million people to malaria in Africa alone.⁸ As such, it is possible to identify an imminent and significant threat to humanity posed by climate change. Moreover, with only very minimal rises in average global temperatures, this threat escalates drastically.

What is perhaps most apparent from this analysis, however, is that the effects of climate change are not going to be distributed evenly across all countries, communities and people. Indeed, it is frequently those who are victim to the most severe of the consequences of climate change that possess the least capacity to adapt and respond to such changes.⁹ Communities living amongst the Himalayan glaciers demonstrate one such example. There are 15 000 glaciers in the Himalayan region that provide vital water supplies to millions of people in Pakistan, Nepal, Bhutan, India and Bangladesh.¹⁰ One of the many river basins created by glaciers in the Himalaya Mountains is the Gangetic Basin, which is home to more than 500 million people who depend on inland waterways for their livelihoods but who are, at the same time, vulnerable to flooding. The glaciers feeding river basins, such as the Gangetic, are receding faster than anywhere else in the world and, if the present rate of retreat continues, ‘the likelihood of them disappearing by the end of 2035 and perhaps sooner is very high if the Earth keeps warming at the current rate’.¹¹ The IPCC has recognised that the ‘receding and thinning of Himalayan glaciers can be attributed primarily to the global warming due to [an] increase in anthropogenic emission of greenhouse gases’.¹² That is, significant environmental change is occurring as a direct result of increase in greenhouse gas emissions attributed to anthropogenic activities. In this case, whilst those communities living in the vicinity of, and relying on, Himalayan glaciers are clearly the most severely affected, they are also similarly unlikely to have a great deal of capacity to adapt to a rapidly-changing environment. Moreover, these communities are responsible for only a very tiny contribution to the global climate change problem.

Such inequity is similarly evident with respect to Bangladesh, which is also heavily affected by the glacial melt and suffers disproportionate environmental damage. Being one of the most densely-populated countries in the world, as well as being located within a giant river basin, Bangladesh continues to be severely affected by the impacts of climate change.¹³ Water, once again, presents the

⁸ Ibid 66.

⁹ Angela Williams, ‘Achieving Justice within the International Legal System: Prospects for Climate Refugees’ in Yves Le Bouthillier et al (eds), *Climate Law and Developing Countries: Legal and Policy Challenges for the World Community* (2010) (forthcoming).

¹⁰ Rex Victor Cruz et al, ‘Asia’ in Working Group II, IPCC, *Climate Change 2007: Impacts, Adaptation and Vulnerability* (IPCC Fourth Assessment Report, 2007) 469, 493.

¹¹ Ibid.

¹² Ibid.

¹³ Richard Black et al, ‘Demographics and Climate Change: Future Trends and Their Policy Implications for Migration’ (Development Research Centre on Migration, Globalisation and Poverty Working Paper No T-27, 2008) 27.

main problem, with accelerated riverbank erosion and increased flooding resulting from both upstream de-glaciation and rising sea levels.¹⁴ Salinity in surface water, ground water and soil is having considerable social and economic impacts as previously extensive and valuable rice fields and agricultural land have become unproductive due to, inter alia, salt contamination and rising sea levels.¹⁵ And Bangladesh is suffering intensified and more frequent storm activity: Cyclone Sidr struck Bangladesh in November 2007, killing more than 2000 people and affecting millions.¹⁶ The Government of Bangladesh reported that the cyclone inundated 32 000 square kilometres; destroyed over 85 000 houses and damaged almost one million; destroyed or partially damaged approximately 1.2 million acres of crops; resulted in the death of 649 people; and created an estimated US\$1 billion worth of damage.¹⁷ Whilst this is not the first cyclone to strike Bangladesh (notably Cyclones Gorky in 1991 and Bhola in 1970), anthropogenic climate change will deliver more frequent and severe examples of extreme and destructive weather.

The example of Bangladesh highlights a common experience for many countries still engaged in the process of ongoing economic development. Environmental change occurring as a result of global warming is largely having an inequitable impact on already vulnerable people, communities and countries throughout the world.¹⁸ Whilst climate change is an inherently global problem and will affect people indiscriminately, the ability of both people and states to respond to climate change varies enormously. This differing capacity to adapt is crucial in terms of the resulting inequity and injustice experienced by people, especially in the developing world. What is apparent is that in order for climate change to be equitably and effectively addressed, there needs to be global cooperation for action, underscored by principles of justice. There exists a growing body of literature, particularly within political theory, on the idea of climate justice and the extent to which principles of justice can be integrated into the climate change legal framework.¹⁹ This think piece seeks to engage a much narrower discussion within the climate justice debate by exploring the concept of solidarity as a mechanism for promoting justice in respect of climate change law. The general obligation regarding cooperation is well established.²⁰ But how might solidarity better contribute to a more effective and just legal framework for climate change? What might inspire countries to cooperate, and how could such

¹⁴ Ibid.

¹⁵ Angela Williams, 'Turning the Tide: Recognizing Climate Change Refugees in International Law' (2008) 30 *Law and Policy* 502, 505.

¹⁶ Simon Robinson, 'How Bangladesh Survived a Cyclone', *Time* (New York, US) 19 November 2007.

¹⁷ Ministry of Environment and Forests, Bangladesh, *Bangladesh Climate Change Strategy and Action Plan 2008* (2008) 8 <<http://www.moef.gov.bd/moef.pdf>>.

¹⁸ United Nations Development Programme ('UNEP'), *Human Development Report 2007/2008 Fighting Climate Change: Human Solidarity in a Divided World* (UNEP Report, 2007).

¹⁹ See, eg, Steve Vanderheiden, *Atmospheric Justice: A Political Theory of Climate Change* (2008); Edward A Page, *Climate Change, Justice and Future Generations* (2006); James Garvey, *The Ethics of Climate Change: Right and Wrong in a Warming World* (2008).

²⁰ *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, opened for signature 16 March 1998, 2303 UNTS 148 (entered into force 16 February 2005) art 3(7) ('*Kyoto Protocol*').

collaboration contribute to greater justice and equity in respect of climate change?

III AN INTRODUCTION TO SOLIDARITY

The concept of solidarity has a long history within political and sociological scholarship.²¹ Traditionally associated with the law of obligations, solidarity has emerged to represent a principle of mutual responsibility (or mutuality) focused on the relationship between the individual and society.²² However, owing to the lack of any 'explicit and coherent theoretical tradition of its use as a systematic term', solidarity is widely used but notoriously difficult to define.²³ In its broadest sense, solidarity describes the relationship or dynamics within a community, and the commitment towards cooperation, support and (re)distribution so as to ensure that less fortunate members of the community are provided for. In this way, solidarity might be viewed as 'the principle that the strength of a society is measured by the extent that its rich members support their vulnerable fellow citizens'.²⁴ This clearly resonates with the problem presented by climate change where there exists vast inequity in terms of capacity to adapt to and mitigate climate change, along with disparate contributions in terms of greenhouse gas emissions. Thus, on the face of it, the concept of solidarity presents a potential mechanism for the redistribution of resources and responsibilities within the global community so as to achieve a more equitable and justice-orientated response to climate change.

As a sociological idea, solidarity has been discussed and developed alongside the term 'fraternity' to the extent that the former is now commonly considered to have dislodged and replaced the latter.²⁵ The similarities between the two concepts are clearly evident, however the comparison prompts interesting questions regarding the rationale behind solidarity: what motivates solidaristic behaviour vis-à-vis fraternity? The idea of fraternity inspires notions of kinship and a community with common interests or composed of individuals from the same professional class.²⁶ Essentially, there tends to be a greater sense of equality within a group when the discourse of fraternity is applied. This is usually quite different from when the concept of solidarity is employed where, despite a common bond uniting a group, there will frequently exist some level of disparity between members. Such disparity is commonly evident when considering issues of climate change, as inequity (be it economic, environmental or otherwise) exists across participants, most notably between developing and industrialised nations. Accordingly, solidarity, rather than fraternity, appears more closely orientated to climate change. Furthermore, greater understanding of the concept of solidarity and its potential application to climate change may be

²¹ For an introduction, see, eg, Steinar Stjernø, *Solidarity in Europe: The History of an Idea* (2005).

²² Kurt Bayertz, 'Four Uses of Solidarity' in Kurt Bayertz (ed), *Solidarity* (1999) 3, 3.

²³ Simon Derpmann, 'Solidarity and Cosmopolitanism' (2009) 12 *Ethical Theory and Moral Practice* 303, 304.

²⁴ Robin Cook, 'A Manifesto Like This Would Actually Motivate Our Voters', *The Guardian* (London, UK) 4 February 2005, 24.

²⁵ Bayertz, above n 22, 3; Ulrich Steinvorth, 'The Concept and Possibilities of Solidarity' in Kurt Bayertz (ed), *Solidarity* (1999) 29, 29.

²⁶ Bayertz, above n 22, 3–8.

gleaned from considering the composition of possible groups claiming solidarity and exploring what motivates and inspires solidaristic behaviour.

A *Solidarity amongst Whom?*

As indicated by its heritage in social policy (especially, for example, in France),²⁷ solidarity is a mechanism for recognising disparity within a community between ‘the economically active and the old, between the well and the sick, between those at work and the unemployed’, amongst others.²⁸ Consequently, solidarity is something quite different from fraternity in that it presupposes a disparity that requires cooperation and support (that is, solidaristic measures or behaviour) in order to be resolved. This is clearly the case in respect of climate change, where the capacity of states varies so significantly.

The starting point for solidarity is the presumption of certain shared characteristics (for example, members of a family, a rural community, a nation-state or humanity more broadly), or equality with respect to some social principle (that is, belief in certain fundamental norms or rights), which unites or identifies a group. It is then on this basis that solidarity is identified to represent ‘a commitment to some kind of mutual aid or support’ for members of that group.²⁹ It is through the identification of a social bond that solidarity facilitates the provision of support or redistribution within a community. Moreover, the closer the social bond, the greater the level of solidaristic behaviour that is likely to be shown to other members. On the one hand, such an approach might indicate an opportunity for solidarity to be embraced at local levels in response to climate change challenges, whereby transnational and regional solidaristic behaviour reflects the closer social bonds felt by members. This might be evidenced by states accepting neighbouring populations affected by climate displacement, or the creation of national climate initiatives to reduce greenhouse gas emissions with a view to providing a long-term benefit for all members of the solidaristic grouping. However, on the other hand, such an approach could also be considered to undermine international climate change initiatives because global social bonds would be much weaker than the more immediate social bonds experienced by, for example, nationals of a state. It has been suggested that the concept of solidarity is capable of being extended to the universal level, encompassing all humanity, since it is possible to experience solidarity with any human being vulnerable to suffering and humiliation.³⁰ Indeed, it may be the case that solidaristic behaviour develops and exists in relation to climate change on a number of different levels (local, transnational, regional and global). Whilst these levels may individually reflect varying degrees of strength or weakness (depending on the closeness of the social bond), when viewed collectively, they represents a multifaceted and reinforced culture of solidarity operating at (and reflective of) all levels of the climate change crisis.

²⁷ William Outhwaite, ‘Who Needs Solidarity?’ in Nathalie Karagiannis (ed), *European Solidarity* (2007) 75, 79.

²⁸ *Ibid* 78.

²⁹ Melissa Llewelyn-Davies, ‘Two Contexts of Solidarity among Pastoral Maasai Women’ in Patricia Caplan and Janet M Bujra (eds), *Women United, Women Divided: Cross-Cultural Perspectives on Female Solidarity* (1978) 206, 206.

³⁰ Richard Rorty, *Contingency, Irony, and Solidarity* (1989) 192.

Traditionally, solidarity has been identified as being aligned with risk categories and social classes. In these circumstances, solidarity manifests itself in a system whereby 'the poor and risk-prone are the obvious clients of a system that promises to reapportion the effects of uncertainty' (potential redistributive winners and solidaristic groups), whilst conversely the 'affluent and safe' members of society 'have good reason to shun attempts to make them share burdens with the ill-starred' (the redistributive losers and thus, unsolidaristic groups).³¹ Such an approach to social policy (and welfare organisation) is commonly viewed as a 'battle between working and middle class, poor and rich, lower and upper', where self interest plays a dominant role.³² Broadly, this same division can be identified within the international community between industrialised and developing countries. On an international level, many developing countries unite in claims for solidarity and redistribution, identifying common features such as, inter alia, the need for development aid, differentiated responsibilities to global problems (based on prior contributions) and experiences of colonisation. The Group of 77 could be recognised as a collective of developing states such as those envisaged as being 'risk-prone' who are potential redistributive winners in favour of the principle of solidarity.³³

However, in actual fact, solidarity is not always clearly divided along such traditional class lines but rather, it is possible that one's place within society is subject to variation.³⁴ Whilst class divisions within a society provide some indication as to solidarity groupings, there is capacity for movement amongst members. This observation is equally relevant in the international context where class divisions are represented by differences between industrialised and developing states. Many oil producing states — as represented by 'OPEC', the Organisation of Petroleum Exporting Countries — could currently be identified as being safe members of society who are typically the redistributive losers and unsolidaristic in nature given the economic wealth and fossil fuel independence experienced by many OPEC nations. However, a global move away from petroleum consumption to renewable energy could see OPEC nations forced to embrace solidaristic measures given their primary reliance on oil production to date. Similar experiences of movement between traditional solidaristic and non-solidaristic groups might also be evident where states (previously reluctant to engage in solidarity measures in response to climate change) are faced with new and significant migration challenges, as displaced populations are forced to migrate. In this way, it is apparent that risk exposure is not, in fact, static and states can transcend different groups that will, in turn, harbour differing opinions and priorities regarding solidarity.³⁵ However, it is unlikely that states would be motivated toward solidaristic behaviour solely due to a fear that at some future point their risk profile may change and render them less capable to cope and

³¹ Peter Baldwin, *The Politics of Social Solidarity: Class Bases of the European Welfare State 1875–1975* (1990) 14.

³² *Ibid.*

³³ Group of 77, *Joint Declaration of the Seventy-Seven Developing Countries Made at the Conclusion of the United Nations Conference on Trade and Development* (Geneva, 15 June 1964) <<http://www.g77.org/doc/Joint%20Declaration.html>>.

³⁴ For example, agriculture, at one time considered the safest of occupations, became 'mechanized and perilous' in later years: Baldwin, above n 31, 14–15.

³⁵ *Ibid.* 14.

adapt to climate change. Indeed, it is often difficult to inspire climate change mitigation and adaptation in a state with a seemingly secure future position; the short-term focus of political rhetoric generally surpasses long-term environmental and development policy. Nonetheless, recognition of the risk categories is of interest in highlighting the possible variability within different groups and potential rationale for embracing solidaristic behaviour.

B *Why Solidarity? Motivation and Rationale*

An important aspect of solidarity to be considered is the motivation or inspiration for solidaristic behaviour. The recognition of differing capacities within a community and the need for solidarity raises interesting questions as to *why* members of a group might engage in solidaristic activities. This logic of solidarity has been justified predominately by, on the one hand, self-interest, and on the other, altruism.³⁶ Justifying solidarity in terms of self-interest recognises that '[r]ationally calculating individuals, aware of society's utility and inter-dependence, maximize their own well-being by improving that of others'.³⁷ This approach is commonly referenced in economic terms, where redistribution is considered part of a cost-benefit analysis. In this way, some moderate redistribution by more affluent members of society, in favour of less-fortunate members, acts as a type of insurance policy; behaviour that is arguably less to do with solidarity and is, in fact, more economically inspired. Indeed, this may be the case in relation to climate change, whereby the action of industrialised nations supporting developing countries simply represents an attempt to secure their own prosperous future; a kind of insurance policy against future global climate disaster. Nevertheless, it may well be possible for such a self-interested approach to be effective in promoting solidarity. Yet, there are potential pitfalls: an approach motivated by self-interest could create conflict where there is a failure to recognise a problem by members of a group, or alternatively where there is disagreement within the group as to the appropriate level of redistribution required. Both of these hurdles have been evidenced in terms of climate change. So-called 'climate change deniers' have resisted mitigation or adaptation measures, leading to conflict within the international community where solidarity measures have consequently remained unsupported.

Similarly, conflict also arises where there is a lack of agreement within the international community as to the *extent* of any solidaristic behaviour required; this may be in relation to the appropriate level of redistribution (for example, through international development aid), or in relation to the required emission reduction targets (where states continue to debate the appropriate emission reduction target for the benefit of all). Despite such possible shortcomings, solidaristic behaviour, inspired by self-interest, remains constructive in addressing the challenge of climate change. The global nature of the problem means that states need one another in order to work together to achieve a beneficial result; notably, industrialised nations are dependent on states such as China, India and Brazil participating in the international legal framework in order for it to be effective. So, in this way, solidaristic behaviour on the part of

³⁶ Ibid 21.

³⁷ Ibid 22.

industrialised nations is based on self-interest, but it also represents the classic contractarian analysis of participation in international agreement.

A second justification for solidaristic behaviour is that of altruism, whereby members of a community act out of good faith or a sense of philanthropy. An altruistic rationale for solidarity provokes questions as to *why* members might choose to be altruistic; perhaps a motivation based on a sense of similarity within the group, or recognition of a need for interdependence.³⁸ However, whilst notions of charity and justice might frame our sense of altruism, it could also well be possible to see such behaviour as, in reality, being little more than economically efficient. This is demonstrated in the assessment made by Nicholas Stern, who explains the cost of developing a low-carbon economy *now* as being considerably more economically effective than delaying action and dealing with the consequences in future years (through needing to treat preventable diseases and replace carbon-intensive energy systems and so on).³⁹ Whilst seemingly altruistic behaviour may be a reason for solidarity, there could well be consequences that, coincidentally or otherwise, happen to also be cost-effective. Accordingly, this creates doubt over altruism as a motivation for solidarity: can any measure be truly altruistic and not be inspired by some form of self-interest? Furthermore, solidaristic behaviour — seemingly motivated by altruism — is most likely to occur in relation to communities demonstrating close bonds: the closer members feel toward each other and empathise with one another's problems, the more willing members will be to engage in solidarity measures. In this way, solidarity can be defined as the 'inner cement holding together a society'.⁴⁰ However, there will inevitably be greater cohesion and a sense of moral duty in relation to small groupings of humans (for example, families) than largely indirect and anonymous communities (for example, the 'global community').⁴¹

The altruistic motivation for solidarity could perhaps be more clearly envisaged where individuals unite in order to represent a common interest. The relationship between solidarity and liberation has emerged to the extent there exists some form of 'emotional cohesion between the members of ... social movements and the mutual support they give each other in their battle for common goals'.⁴² This form of solidarity quite overtly embraces ideas of justice to the extent that it is used as a positive action in order to assert a right or benefit for a minority group. Solidarity then becomes part of the process of developing rights and thus, an important source of legal process.⁴³ This approach potentially could be influential in respect of climate change where the human impacts of such environmental change are directly related to fundamental economic and social rights. In this way, solidarity can be used as a political tool to promote action for mitigation of and adaptation to climate change. However, whilst altruism clearly inspires this liberating form of solidarity, it is possible that there

³⁸ Outhwaite, above n 27, 81–2.

³⁹ Stern, *The Stern Review*, above n 6. See also Nicholas Stern, *A Blueprint for a Safer Planet: How to Manage Climate Change and Create a New Era of Progress and Prosperity* (2009).

⁴⁰ Bayertz, above n 22, 9.

⁴¹ *Ibid* 9–15.

⁴² *Ibid* 16.

⁴³ *Ibid*.

also exists ‘overtones of an expectation of potential mutuality and the hope of simultaneously serving one’s own interests’.⁴⁴ This mutuality is based on the notion that members of a community are willing to embrace solidarity and help those less fortunate because there may come a time where they, in turn, are in need of aid and solidaristic measures from their community (in line with the movement between risk categories described above). Thus, even the most altruistically-inspired behaviour is commonly tinged with notions of self-interest. Climate change exemplifies this sociological explanation: industrialised nations may claim to undertake mitigation measures, for the benefit of all mankind and especially those in the greatest of need with little ability to adapt. However, there ultimately exists an element of self-interest, whereby any resulting benefit in reducing greenhouse gas emissions is enjoyed by everyone.

Perhaps an important question to consider is what kind of motivation for solidarity is most effective in achieving results (that is, mitigating and adapting to climate change)? Ultimately, it would be difficult to deny that both states and individuals are not primarily motivated by a sense of self-interest.⁴⁵ Whilst it may be comforting to believe that solidaristic measures are undertaken because of altruistic behaviour, in actual truth, the global community would not demonstrate such vast inequities and extreme poverty if this were the case. Instead, action appears to be most effective where there exists some form of self-interest (for example, addressing climate change so as to reduce the impact to oneself), even if those solidarity measures are cloaked in a form of altruism. Indeed, it could be argued that solidaristic behaviour motivated (at least partly) by self-interest is more reliable than behaviour based on altruism since there is more of a vested interest, rather than simply a possibly wavering sense of benevolence, at stake.

IV SOLIDARITY AND INTERNATIONAL LAW

Many global problems rely on international cooperation in order to achieve any suitable form of remedy or resolution. This is especially the case for environmental problems, such as climate change, that are inherently trans-boundary in character and demonstrate little regard for state borders and the principle of sovereignty. The most basic of ideas within international law — that states have a duty of mutual assistance in order to improve their general situation and relations — seemingly conceives of solidarity as the basic condition for the existence of a community of states.⁴⁶ Specifically, it has been considered that:

Solidarity, as a principle of international law, creates a context for meaningful cooperation that goes beyond the concept of a global welfare state; on the legal plane it reflects and reinforces the broader idea of a world community of interdependent states.⁴⁷

⁴⁴ Ibid 18.

⁴⁵ For a discussion on the justification for environmental protection in general, see Alexander Gillespie, *International Environmental Law, Policy and Ethics* (2000).

⁴⁶ Ronald St John Macdonald, ‘Solidarity in the Practice and Discourse of Public International Law’ (1996) 8 *Pace International Law Review* 259, 260.

⁴⁷ Ibid.

However, whilst solidarity can be recognised in different forms within international law, it is likely that any specific obligations created by the principle are moral rather than legal and thus, difficult to enforce.⁴⁸ Whilst there appears to be some general acceptance as to the existence of the principle of solidarity within international law, there is still a lack of agreement as to the precise nature of the principle. Consequently, a number of different approaches have emerged.⁴⁹ Some scholars consider that solidarity creates no additional legal obligations beyond what already exists in treaties and custom, whilst others believe that solidarity does imply an additional legal obligation for industrialised nations to assist less developed countries, or 'at a minimum, not to interfere with the interests of other states'.⁵⁰ Finally, some consider solidarity to be a principle that informs the whole system, and is 'a direction in which international law is traveling'.⁵¹ Clearly, the specific meaning of the solidarity principle within the international legal system remains uncertain, however, the essence of the principle is evident in a number of different contexts.

International environmental law can be seen to engage solidarity in different ways. Early principles of non-interference were established in the *Trail Smelter* decision⁵² and later endorsed by the 1972 *Stockholm Declaration*,⁵³ where states agreed to a 'responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction'.⁵⁴ This principle was later reiterated in the 1992 *Rio Declaration*⁵⁵ and remains a core principle of modern international environmental law.⁵⁶ The principle of cooperation has been, and remains, central to the development of international environmental law. The *Stockholm Declaration* called on states to cooperate to 'develop further international law ... for the victims of pollution and other environmental damage'.⁵⁷ However, some 20 years later, the *Rio Declaration* developed the principle of cooperation much further by incorporating it into numerous areas of responsibility.⁵⁸ Inherent within the *Rio Declaration* is the recognition of the relationship between environment and development, and that the challenges associated with both are inseparable and must be addressed simultaneously. The principle of sustainable development emerged as the mechanism for reconciling environment and development interests and remains a key concept within the international legal

⁴⁸ Ibid 262.

⁴⁹ These approaches are discussed in greater detail by McDonald: *ibid*.

⁵⁰ *Ibid*.

⁵¹ *Ibid*.

⁵² *Trail Smelter Arbitration (United States v Canada)* (1941) 3 RIAA 1905.

⁵³ *Report of the United Nations Conference on the Human Environment*, UN Doc A/CONF.48/14/Rev.1 (1 January 1973) ch I (*Declaration of the United Nations Conference on the Human Environment*) ('*Stockholm Declaration*').

⁵⁴ *Ibid* principle 21.

⁵⁵ *Report of the United Nations Conference on Environment and Development*, UN Doc A/CONF.151/26/Rev.1 (Vol I) (12 August 1992) annex I (*Rio Declaration on Environment and Development*) principle 27 ('*Rio Declaration*').

⁵⁶ *Ibid* principle 2.

⁵⁷ *Stockholm Declaration*, above n 53, principle 22.

⁵⁸ See, eg, *Rio Declaration*, above n 55, principles 5, 7, 9, 12, 14 and 27.

system today.⁵⁹ The *Rio Declaration* recognises the varying needs of those within the international community and the importance of addressing environmental and development concerns together by embracing ideas of solidarity. Specifically, it provides that:

All states and all people shall cooperate in the essential task of eradicating poverty as an indispensable requirement for sustainable development, in order to decrease the disparities in standards of living and better meet the needs of the majority of the people of the world.⁶⁰

Furthermore, the ‘special situation and needs of developing countries, particularly the least developed and those most environmentally vulnerable, shall be given special priority’.⁶¹ This represents a clear manifestation of solidarity whereby the international community is called upon to unite and address global poverty with a view to promoting sustainable development.

The principle of sustainable development provides an interesting platform for the examination of solidarity, as it not only strives to obtain cooperation amongst participants across environmental and development interests but it also seeks to achieve a sense of equity between generations.⁶² Generational equity — both ‘inter’ (between current and future generations) and ‘intra’ (across the current generation) — is inherent to sustainable development, and in many ways articulates the principle of solidarity within international environmental law. Intergenerational equity requires that there is a sense of parity between current and future generations — essentially, that the present does not compromise the ability of future generations to meet their needs. The idea of ‘intergenerational solidarity’ has been popular in family law and social policy on ageing, although it is now also being examined outside of these contexts. Conversely, intra-generational equity focuses on fairness within the current generation and the need for redistribution of resources and opportunities. In many ways, this principle may be seen as an expression of solidarity in the pursuit of climate justice, given the manner in which it embraces principles of redistribution and equity.

V CLIMATE CHANGE LAW AND SOLIDARITY

The principle of solidarity is evident in different forms throughout the international climate change framework, reflecting the fact that international cooperation is fundamental to the success of any global climate change agreement. However, there are three features of the climate change framework

⁵⁹ World Commission on Environment and Development, *Our Common Future* (1987). On the general concept of sustainable development, see Marie-Claire Cordonier-Segger and Ashfaq Khalfan, *Sustainable Development Law: Principles, Practices and Prospects* (2004).

⁶⁰ *Rio Declaration*, above n 55, principle 5.

⁶¹ *Ibid* principle 6.

⁶² For a critique of the concept of sustainable development, see Angela Williams ‘Re-assessing Traditional Notions of Sustainable Development’ (2006) 18 *Environmental Law and Management* 181.

that are worth highlighting, owing to the way in which the principle of solidarity can be seen to be operating in a practical way. The first is in relation to the principle of ‘common but differentiated responsibilities’ (‘CBDR’), which is based on the need for states to cooperate ‘in a spirit of global partnership’ in order to conserve and protect the Earth’s ecosystem.⁶³ Specifically, the principle recognises that ‘[i]n view of the different contributions to global environmental degradation, States have common but differentiated responsibilities’.⁶⁴ This means that industrialised states should

acknowledge the responsibility that they bear in the international pursuit to sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.⁶⁵

The CBDR principle represents a clear manifestation of solidarity integrating responsibilities for cooperation, along with recognition of existing disparities within the (in this case, global) community and facilitating support and assistance measures. The *United Nations Framework Convention on Climate Change* (‘UNFCCC’)⁶⁶ represents a common agreement on how to respond to the global problem of climate change, but participating states vary enormously in terms of both their contribution to the problem and their capacity to respond. Nevertheless, a global solution and universal participation is imperative if the problem is to be properly addressed. The UNFCCC recognises that ‘the largest share of historical and current global emissions of greenhouse gases has originated from industrialised countries’ and that ‘per capita emissions in developing countries are still relatively low’.⁶⁷ However, it is similarly acknowledged that ‘the global nature of climate change calls for the widest possible cooperation by all countries and their participation in an effective and appropriate international response’.⁶⁸ The UNFCCC thus adopted the CBDR principle, requiring parties to the Convention to ‘protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities’.⁶⁹ In light of this, the UNFCCC requires industrialised states parties to take the lead in combating climate change, seemingly endorsing solidaristic behaviour.

A second way in which solidarity can be seen to operate within the climate change framework is by way of the flexibility mechanisms, and in particular, the Clean Development Mechanism (‘CDM’). One of the unique features of the *Kyoto Protocol* is the introduction of ‘flexible mechanisms’ created to make it easier, or more cost effective, for Annex I parties (that is, industrialised nations)

⁶³ *Rio Declaration*, above n 55, principle 7.

⁶⁴ *Ibid.*

⁶⁵ *Ibid.*

⁶⁶ Opened for signature 4 June 1992, 1771 UNTS 107 (entered into force 21 March 1994).

⁶⁷ *Ibid* preamble.

⁶⁸ *Ibid.*

⁶⁹ *Ibid* art 3(1).

to meet their commitments.⁷⁰ Some of the mechanisms are also considered to provide assistance to developing states in respect of ongoing sustainable development and adapting to low-carbon economies. The so-called flexible mechanisms are Joint Implementation,⁷¹ the CDM,⁷² and Emissions Trading.⁷³ Discussion will focus on the CDM, which has received the greatest attention to date from participating states and best demonstrates the application of solidaristic behaviour.

The CDM is considered to embody a dual purpose: first, to assist developing countries in achieving sustainable development and contributing to the overall objective of the *UNFCCC*, and second, to assist industrialised states in achieving compliance with their emission reduction commitments established in the *Kyoto Protocol*.⁷⁴ The CDM operates by allowing Annex I parties (that is, the developed states listed in Annex I who have agreed to specific emission reduction targets) to establish project-based activities that reduce anthropogenic greenhouse gas emissions in non-Annex I states. Essentially, the mechanism permits industrialised nations to invest in low-carbon projects in developing country parties. In return for such investment, the Annex I party receives credit by way of Certified Emission Reductions ('CERs') that can be used to contribute to its own emission reduction target. Accordingly, the CDM facilitates solidaristic behaviour by encouraging industrialised states to assist and support developing nations by contributing to the growth of a low-carbon economy. There has been some criticism levelled at the effectiveness of the CDM in promoting justice and equity within the climate change framework.⁷⁵ Suggestions that the CDM effectively allows states to 'buy' their way out of meeting their own emission reduction targets have been refuted by highlighting that the use of CERs must be supplemental to domestic action, and that reporting requirements install a sense of transparency and accountability into the process. Indeed, in response to allegations that the CDM remains more focused on alleviating industrialised countries of their anthropogenic emission reduction commitments, one might revisit the differing motivations for solidarity identified earlier. Whilst the CDM can be recognised as solidaristic behaviour, it is clearly not inspired by altruism given the intended dual benefit and the issue of CERs to the investor state. Instead, this form of solidarity is very much conceived of in self-interest to the extent that industrialised states fund projects because they receive a benefit in return. There is no argument to say that the CDM is any less solidaristic because states act out of self-interest rather than a sense of altruism or moral responsibility. On the contrary, the self-interest element could well mean the mechanism is more effective than it might have been otherwise.

⁷⁰ For an overview, see David Freestone and Charlotte Streck (eds), *Legal Aspects of Implementing the Kyoto Protocol* (2005).

⁷¹ *Kyoto Protocol*, above n 20, art 6.

⁷² *Ibid* art 12.

⁷³ *Ibid* art 17.

⁷⁴ *Ibid* art 12(2).

⁷⁵ See, eg, Francesca Romanin Jacur, 'Paving the Road to Legitimacy for CDM Institutions and Procedures: Learning from Other Experiences in International Environmental Governance' (2009) 3 *Carbon and Climate Law Review* 69.

A third way in which solidarity appears in terms of international climate change law is by the creation of funding initiatives. The Adaptation Fund was created to finance adaptation projects in developing countries that are especially vulnerable to the adverse effects of climate change.⁷⁶ The Special Climate Change Fund, designed to complement other funding mechanisms in the *UNFCCC*, was also established to finance projects relating to adaptation, such as technology transfer and capacity building; ‘energy, transport, industry, agriculture, forestry and waste management’; and economic diversification (for example, for oil-exporting countries).⁷⁷ In line with the CBDR principle, these funds promote solidarity by encouraging industrialised nations to take the lead and provide support and assistance to less capable states. Thus, analogous with socialist traditions, the concept of solidarity has been employed by the climate change framework as a way of organising our global society and providing a mechanism for social welfare.

VI CONCLUDING REMARKS

Climate change law has developed as a complex web of emissions reduction targets, support systems, financial mechanisms, and development initiatives. Cooperation is integral to the success of climate change law and policy not only in terms of unifying states to inspire collective action, but also owing to the diverse and challenging interests that require reconciliation in order for the problem to be effectively addressed. However, cooperation is largely a generalist principle employed in various areas of international law, encouraging states to work together for the purpose of achieving a common goal. It lacks any real appreciation or recognition of varying capacity amongst participants, or the need for redistribution in order to promote a justice-orientated solution. It is suggested here that the principle of solidarity offers a more comprehensive approach that resolves many of the shortcomings identified with a general principle of cooperation. Solidarity may be considered to have greater capacity than cooperation to achieve climate justice, as it is based on and emanates from a moral authority that is absent in relation to cooperation. Indeed, the essence of solidarity can already be identified in a number of different principles and mechanisms present within the legal climate change framework, thus promoting notions of justice and equity. Whilst present throughout much of the international legal system in various forms, the principle of solidarity arguably remains of moral significance only, lacking real clout as a legally enforceable obligation. However, the collaborative nature of solidarity indicates an implied acceptance by states and thus, confirmation as a soft law principle within international environmental law. Moreover, ‘soft-law creates the “pull” of legitimacy even without sanctions’ through the articulation of common goals,

⁷⁶ Conference of the Parties (‘COP’), UNFCCC, *Report of the Conference of the Parties on Its Seventh Session, Held at Marrakesh from 29 October to 10 November 2001*, UN Doc FCCC/CP/2001/13 (21 January 2002) 52 (*Decision 10/CP.7 — Funding under the Kyoto Protocol*).

⁷⁷ *Ibid* 43 (*Decision 7/CP.7 — Funding under the Convention*).

such as addressing the global climate change problem.⁷⁸ This think piece has identified the principle of solidarity as a mechanism for promoting justice within international climate change law and better recognising the needs of developing states so that a fairer and more equitable solution may be achieved. Nevertheless, there remains considerable scope for the further development of solidarity discourse within climate change law.

⁷⁸ Macdonald, above n 46, 287.