

COMBINING PERSPECTIVES FOR AN OPERATIONAL FRAMEWORK FOR EQUITY IN THE 2015 AGREEMENT¹

Abstract

Equity is a highly contentious but essential area of negotiation, if a stable and effective international climate agreement with broad participation is to be achieved. This article identifies three perspectives on the magnitude dimensions of equity that need consideration in the process of formulating an agreement: agreement on a “safe” temperature goal; agreement on the required global effort; and agreement on a fair division of contributions. It further explores opportunities for reconciling these perspectives in an operational framework for equity.

Specifically, the article reflects on the importance of the adopted a global temperature goal of below 2°C temperature increase by the end of the century. In addition, an initial approach to quantifying adaption costs is suggested, whilst the importance of arriving at a global mitigation goal is emphasised. The paper further argues that finance and technology support commensurate with the required global mitigation and adaptation effort is an important element of equity.

Policy Relevance Abstract:

Equity is an unavoidable consideration in the negotiation of an effective global climate regime. This paper identifies three central areas of debate within global negotiations, viz. an appropriate temperature goal; global goals for adaptation, mitigation, finance and technological support; and the division of global effort. It further explores opportunities for reconciling the areas of debate specifically in the context of an Equity Reference Framework, whilst suggesting approaches to quantifying adaptation needs.

¹The contents of this paper neither represent the views of organizations nor groupings the author may belong to

1. Introduction

The pursuit of a fair global climate change regime has been the most elusive element of the international negotiations, with equity issues being among the most contentious issues standing in the way of an effective agreement (Heyward 2007). The contentious yet relentless pursuit of an equitable agreement is central to a stable agreement, with broad participation, that is effective towards the achievement of mitigation and adaptation objectives of the United Nations Framework Convention on Climate Change (UNFCCC). Stability and participation are the rationale for the Framework Convention on Climate Change's assertion that, the basis for climate action should be equity and common but differentiated responsibilities and respective capabilities (CBDR&RC).

In this article, the concept of equity is simplistically interpreted in terms of what Parties perceive to be a fair climate agreement, albeit philosophically it hinges on either distributive or corrective justice paradigms. According to Lamont *et al* (2013) distributive justice provides a framework for the distribution of economic benefits and burdens across members of a society. From his viewpoint, distributive justice is also dynamic in an environment of constant change across and within societies over time. Corrective justice, on the other hand, makes a case that there is a responsibility to repair wrongs arising from breaching the first order duty of not injuring others, with wrongfulness dependent on the wrongdoer being morally to blame (Coleman, et al. 2013).

The perception of equity in the negotiations finds expression in both the form and magnitude of commitments. Differential treatment in the scope and type of obligations by various Parties expresses form, for instance in the UNFCCC developed countries are classified as Annex I and Annex II, with specific obligation for emission reductions or provision of finance and technology support respectively. In parallel, the magnitude of the contribution by individual Parties towards such obligations further informs fairness. Rajamani (2006) argues that differential treatment in treaty obligations are a result of expressing sovereign equality in a world of unequal states. Because of the significant differences in the capabilities and responsibilities of states, outcomes under the treaty require assignment of unequal rights and duties. The UNFCCC is instructive on the form dimension of equity, through the differentiation of developed and developing countries in its annexes, but it provides limited guidance on the difference in magnitude of contributions from all of its members. Currently

both these elements of equity – form and magnitude – are central to the negotiation of an international treaty. The first Co-Chairs of the Ad Hoc Working Group on the Durban Platform (ADP) have identified equity as one of the key elements, alongside science, flexibility, effectiveness and participation, which could guide an approach to constructing the 2015 Agreement (UNFCCC, 2013). The challenge is that many different perspectives about equity co-exist within negotiations.

This paper explores an opportunity for combining different perspectives towards an operational framework for equity in the 2015 Agreement, with a particular focus on the magnitude dimensions. What is needed to meet the UNFCCC requirements for both mitigation and adaptation, and how should these requirements be divided into obligations among Parties? The perspectives covered in this article draw on past decisions under the UNFCCC, and on different perspectives expressed by Parties about what constitutes fairness.

2. Expression of equity dimensions

There are three central conversations about equity and the magnitude of obligations under the UNFCCC. The first has focused on the translation of the convention objective of avoiding dangerous climate change into a temperature goal. From this perspective establishing an appropriate temperature goal is a dimension of equity because it provides a solid basis for the further understanding and division of the efforts required to achieve this target.

A second set of consideration has focused on the required global effort in terms of mitigation, adaptation and the provision of finance and technology. From an equity perspective the challenge here has been to determine what the total global requirements are in light of the achievement (or failure to achieve) the temperature goal dictated by the convention.

Finally, a third area of attention is focused on the determination of what fair contributions to the global effort are for each party. The following sections first review how we might understand these elements of equity, and then assesses their maturity towards an operation framework for equity in the 2015 agreement. These equity questions primarily revolve around, how much of what must be done? and who must do what?

2.1 Equity in achieving the objective of the Convention

The scope of global climate action is aptly expressed in the objective of the Convention, where the prevention of dangerous anthropogenic interference with the climate system is a premise for both the stabilisation of greenhouse gas concentrations (GHG), and a definition of unacceptable climate impacts (United Nations, 1992). The concept of dangerous climate change therefore is the basis for mitigation and adaptation action; as such pursuit of the objective must inherently address both.

According to Schneider, *et al* (2007), the interpretation of the objective of the Convention is a dynamic process, as the assessment of what level of GHG concentration may be considered dangerous is subject to scientific knowledge, social values, and political priorities. The recognition by the Conference of Parties of a long-term goal of holding temperature increases to below 2°C above pre-industrial levels by the end of the century, with provisions for reviewing such a goal (UNFCCC, 2010), parameterises the concept of dangerous anthropogenic interference, arguably the single most important development in science and equity discourse.

A temperature goal informs an acceptable GHG concentration stabilisation level, further defining a reference point against which climate change impacts can be understood. The corresponding mitigation and adaptation needs relative to a temperature goal therefore provide a basis upon which the required global effort can be defined. It is submitted that developments in the negotiations pertaining to the temperature goal, provide a sound basis for an understanding of the 'how much needs to be done' equity question, even though a long-term global goal on emissions reductions has not been agreed yet.

2.2 Equity in the required global effort

The codification of dangerous anthropogenic interference in the form of a temperature goal provides a basis upon which the required global effort can be translated to specific commitments outlined in Article 4 of the Convention. Associated with any temperature goal is a definition of adaptation needs, a global goal for emission reductions, and associated costs and technology needs for those levels of adaptation and mitigation. It can therefore be argued that inadequate commitments towards adaptation, mitigation, as well as finance and

technology needs for a given temperature goal are inequitable. If we define global efforts on the basis of a temperature goal designed to avoid dangerous climate change but fail to achieve this objective, inequity emerges from damages suffered by vulnerable communities. For those whose wellbeing is dependent on meeting the objective of the Convention, failing to meet this objective represent a profound inequity. .

A: Emission reduction goal

Climate sensitivity is the effect on temperature due to a doubling of CO₂, including direct effects and indirect feedbacks. Work on probability density functions for climate sensitivity has examined the change in temperature due to a doubling of CO₂ concentrations. Equilibrium climate sensitivity is likely to be confirmed by IPCC AR5 in the range 1.5°C to 4.5°C, with the most likely value (across probabilities) near 3 °C. Albeit there is a fair degree of confidence in the relationship between temperature and GHG concentrations, the stabilisation concentrations are built of complex and dynamic systems determined by driving forces such as demographics, socio-economic development and technological change (IPCC,2007; and forthcoming in 2013).

With the 2°C temperature goal agreed under the Convention, a key outstanding matter is a long-term global goal on emission reductions - and a fair distribution of efforts among countries. The required global mitigation effort also relates to the peaking of emissions globally and in various countries, as such questions of early vs. late peaking, overshoot vs. no overshoot of the stabilisation concentration. The question is not resolved in the agreed outcome under the Bali Action Plan², rather coined ‘...attain a global peaking of global greenhouse gas emissions as early as possible...’ (UNFCCC, 2012b).

B: Global goal for adaptation

An acceptable level of climate change is premised on its impacts on food security, ability of ecosystems to naturally adapt, economic and sustainable development, highlighting the equal importance of the impacts and drivers of climate change. The adaptation dimension of equity is appositely captured in Aldy, *et al* (2003) with recognition that poorer countries are less responsible for the problem and also less equipped to deal with the results, as such can

² Decisions from CoP16, 17, and 18

be expected to seek assistance commensurate with the scale of damage they are likely to suffer.

With a temperature goal having been defined under the Convention, it is possible to define the scale of adaptation needs required to address the damage likely to be suffered by developing countries. The challenge is finding a methodology for defining and measuring the scope of the adaptation assistance needs globally. In reviewing adaptation costs for Africa, the AfDB (2011) reviewed several case study based modelling, and integrated assessment models for estimating climate costs, which are comprehensive, yet limited in maintaining the temperature-impact causal relationship. In pursuit of maintaining the the temperature-impact causal relationship, one approach, proposed by Ngwadla *et al* (2013), is based on four key factors to approximate the scale of damage globally. These four factors are: the defined temperature goal; emission scenarios; change in frequency of climate related events; and the cost function of events. The likely costs are presumed to reflect the goal for adaptation for a given temperature scenario. From an equity perspective, a benefit of this approach is that it provides a mechanism to recognise global responsibility and explicitly links it to the obligatory nature of adaptation. In this approach the total adaptation need is dependent on a temperature scenario corresponding to mitigation commitments pledged by Parties.

Work that captures the full global adaptation requirements is inherently challenging however. Adaptation costing is complex due to the multidimensional nature of adaptation, including unquantifiable aspects such as loss of life. As such, cost functions cannot adequately address local adaptation needs and other qualitative dimensions, but they can provide a scientific basis to inform negotiations.

C: Finance and technology support goals

The last component of the required global effort is support. Finance and technology commitments are needed in order to achieve the required global mitigation and adaptation effort. The quantification of the required emission reduction combined with adaptation needs based on an agreed temperature goal, provide a starting point by which the finance discussion could proceed in the context of the 2015 Agreement. The Convention provides for Annex II Parties to provide support for agreed incremental costs for adaptation and mitigation

actions including costs for technology transfer in developing countries; and further calls for an appropriate burden sharing amongst developed countries (UNFCCC, 1992).

On finance, global leaders chose a specific amount of \$100 billion in the Copenhagen Accord. However, this was not grounded on an objective basis from which the concept of 'adequacy' could be defined and assessed. Rather, the Accord declares that adequate finance, technology and capacity building 'shall' be provided to developing countries - for mitigation in the context of meaningful mitigation action and transparency - for adaptation to cover 'needs' of developing countries (UNFCCC, 2009a). It is submitted that, for the 2015 Agreement where the UNFCCC process has defined a temperature goal, the finance discussion is well poised for an objective discussion on adequacy of financial commitments.

The concept of environmentally sound technologies includes an array of technologies, with different options for their application, and intellectual property considerations, hence a direct link of technology needs to support adaptation and mitigation action is complex. However, similarly to adaptation, a technology support goal can better be expressed in costs, where incremental costs above a country's business-as-usual technology options for both adaptation and mitigation can be computed. Building from reports such as the Special Report on Renewable Energy, IPCC (2011), incremental costs for various technologies can be determined. Indicators for the non-financial dimensions of technology transfer could be useful to augment these cost figures.

It can be concluded that a necessary condition for a discussion of finance and technology support to developing countries is the definition of a temperature goal and the associated global effort, the remaining question however remains what is the appropriate fair contribution by developed countries in term of their Convention obligations to provide support, and what is a fair contribution by developing countries in their commitment to climate action?

2.3 Equity in contributing to the global effort

With equity in achieving the ultimate objective of the Convention, as well as the required global effort defined, only part of the equity equation would have been addressed. Equity also requires the equitable distribution of efforts amongst the Parties. In the differentiation of Parties the Convention provides a framing by which the contribution to the

global effort can be achieved. The challenge facing negotiators is finding agreement on how best to reflect fairness within differentiation. The key issues of debate have focused on historical responsibility, current capability and development needs, all of which could be reflected in the principle of CBDR&RC. Ngwadla (2012) argues that the principle of CBDR&RC is an operationalisation of a somewhat abstract principle of equity, and should constitute parameters by which responsibility for the global effort described in 2.2 above can be achieved.

The discourse on equity in terms of approaches to achieving fairness have polarised to metric (formulaic) and non-metric (based on judgement) based approaches. Metric approaches typically build on scientific estimates of the global needs of the convention, and then use formulas to divide these needs across Parties. Non-metric approaches usually are bottom-up approaches which are based on considerations of national circumstances and recognition of sovereignty of states. The UNFCCC process has experience in both approaches: the Kyoto Protocol provided for a Party-driven assessments of presented commitments, informed by science, hence a top-down metric process, whereas the Copenhagen process did not provide a platform for assessment against scientific imperatives, but was based on a bottom-up process rooted in the national circumstances of Parties (Ngwadla, Abeysinghe, Freitas, 2013).

Several proposals embedded in one or the other approach have emerged over the years. For example, the 'Australian Schedules' propose a non-metric process in which Parties can present the range of actions and commitments each is prepared to make. In this system parties voluntarily present commitments and revisions, which could then be compared across Parties, although there is no platform for an *ex-ante* assessment for adequacy (UNFCCC, 2009b). Alternately, from a metric perspective, the MATCH process (Hohne, et al, 2007) is another experience in the UNFCCC that sought to apportion efforts by Parties based on a number of metrics and approaches. The MATCH process sought to formalise responsibility for action based in part to the contributions to global levels of GHG concentration. More recently, BASIC experts presented various metric-based approaches. In the BASIC approaches a global carbon budget was used to establish a global definition of effort which was then apportioned to Parties using formulas that drew on principles of historical responsibility (in the Brazilian

Proposal); cumulative emissions assigned on a per capita basis, and dimensions of sustainable and human development (BASIC experts, 2011).

One of the key outcomes of the BASIC papers, was the argument that an ‘equity-based reference framework’ was needed to review what countries are doing and to motivate an increase in the level of ambition. New proposals under the ADP, including the Equity Reference Framework (ERF), (Ngwadla, 2012) elaborate more fully how an ERF can be operationalised in the context of negotiations. This would include reconciling metric and non-metric approaches through a process where a non-binding framework for relative fair efforts is defined. The process is premised on Parties submitting their pledges based on national circumstances, which would be subsequently assessed by all Parties on their adequacy towards meeting the required global effort. This process would provide an opportunity for Parties to re-asses what would become their commitments relative to their peers in term of responsibility.

3. Operationalising equity in the 2015 agreement

In the ADP negotiation sessions in May and June 2013, Parties explored and converged around an *ex ante* process by which nationally determined contributions can be assessed against science and equity. Views expressed were consistent in respect of a process of initial presentation of contributions, followed by an international consultative process, and final inscription into a legal instrument. Recognising this convergence, the ADP Co-Chairs allude to the next step being clarity on how this common approach could be realised, including steps and time frames (UNFCCC, 2013).

The recommendation by the ADP Co-Chair is at the center of operationalizing equity in the 2015 Agreement, with an ERF (Ngwadla, 2012) providing some solutions to the question. The premise of an Equity Reference Framework is that all Parties must contribute towards the global effort on climate change, which is informed by an agreed temperature goal and differentiated commitments. The second premise of the ERF is a determination of ‘relative fair efforts’ by Parties based on historical responsibility, current capability and development needs of Parties through an indexing of various metrics for the three dimensions, as such creating an envelope of responsibility. The third premise is the stepwise

process of arriving at commitments for inscription which is finding convergence amongst Parties in the ADP negotiations.

Some distinguishing characteristics of the ERF include the fact that it encompasses the three dimensions of equity. Secondly, it recognises the global obligatory nature of both adaptation and mitigation elements of the objective of the Convention. Thirdly, developing country domestic investments in adaptation are recognised as contributions to the global effort, whilst providing flexibility for developed to contribute more in finance and technology support *in lieu* of insufficient mitigation commitments within their economies. Fourthly, the ERF defines equitable ranges and minimum thresholds for contributing to the mitigation effort for both developed and developing countries, as well as equitable ranges and minimum thresholds for finance contributions by developed countries. Lastly, it is consistent differential treatment on treaty obligations for Annex I, Annex II and Non Annex I Parties to lead, provide finance, and to act, respectively.

4. Conclusion

The concept of equity in the climate change negotiations can only be solved if both the form and magnitude dimensions of commitments are addressed. The Convention provides sufficient guidance on the form dimension; but does not adequately indicate how equity within the magnitude of contributions should be achieved. However, the agreement on the global temperature goal of keeping temperature increases below 2°C from pre-industrial levels by the end of the century is a significant milestone towards addressing equity in achieving the ultimate objective of the Convention because it establishes a fundamental baseline for which global efforts can be compared and divided.

Importantly, establishing a temperature goal is a sound basis for formalizing the global efforts required both for adaptation and mitigation. Recognising that the UNFCCC process has made progress in defining parameters for mitigation such as peaking, there is a need for defining adaptation goals, with costs being a proxy for such needs. With the magnitude of the required global effort defined, the next step towards operationalizing equity is to define approaches that can be used to apportion these efforts.

The challenge – and opportunity – presented by a 2015 agreement is the extent to which it can reconcile the two different paradigms for constructing a global regime, namely

the top-down science driven perspective, and the bottom-up national circumstance approach. The ERF presents one option of such integration, with the aim of allowing Parties to create an agreement that all can perceive as fundamentally fair.

This article has strongly argued for the centrality of equity, in terms of both form and magnitude, to our ability to design and implement 2015 agreement that is capable of achieving the objectives of the Convention. However, the equity debate can be used, and has been used, as a rhetorical shield behind which to hide national interests. This defensive approach misses the opportunities that an open and genuine conversation about equity presents. A final agreement that operationalise equity under the Convention depends on our ability to find ways of reflecting Parties' interests as part of the global good. These requirements in turn demand that all Parties provide greater clarity about what constitutes fairness from their perspective while also remaining open to the perspectives of others.

References

Lamont, Julian and Favor, Christi, "Distributive Justice", The Stanford Encyclopedia of Philosophy (Spring 2013 Edition), Edward N. Zalta (ed.) forthcoming URL = <<http://plato.stanford.edu/archives/spr2013/entries/justice-distributive/>>.

Coleman, Jules and Mendlow, Gabriel, "Theories of Tort Law", The Stanford Encyclopedia of Philosophy (Fall 2010 Edition), Edward N. Zalta (ed.), URL = <<http://plato.stanford.edu/archives/fall2010/entries/tort-theories/>>.

Ngwadla, X., Engelbrecht, F., Landman, W., Bopape, M, Muckandal, J. 2013. A conceptual and methodological approach to a global goal for adaptation. Under preparation. Council for Scientific and Industrial Research, South Africa.

UNFCCC. 2013. Ad Hoc Working Group on the Durban Platform, Informal Note By the Co-Chairs. ADP.2013.14 Informal Note

Ngwadla, X., Abeysinghe, A. and Freitas, A. 2013. 2015 Agreement: Lessons from the Bali Roadmap. Paper prepared under the auspices of the European Capacity Building Initiative (ECBI).

Ngwadla, X. 2012 Equitable Access to Sustainable Development: relevance to negotiations and actions on climate change. Published as part of input papers to the workshop on Equitable Access to Sustainable Development, hosted by MAPS from the 5-7 March 2013, Cape Town

UNFCCC, 2012a. Approaches to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change to enhance adaptive capacity. Decision 3/CP.18.

UNFCCC, 2012b. Agreed outcome pursuant to the Bali Action Plan. Decision 1/CP.18.

African Development Bank. 2011. The costs of climate change adaptation in Africa.

BASIC experts, 2011. Equitable Access to Sustainable Development: Contribution to the body of scientific knowledge. BASIC expert group: Beijing, Brasilia, Cape Town and Mumbai. http://www.erc.uct.ac.za/Basic_Experts_Paper.pdf

IPCC. 2011. Special Report of Renewable Energy. Summary for Policy Makers

UNFCCC, 2011. Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention. Decision 2/CP.17.

UNFCCC, 2010. Outcome of the work of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention. Decision 1/CP.16.

UNFCCC.2009a. Copenhagen Accord. Decision 2/CP.16

UNFCCC, 2009b. Draft protocol to the Convention prepared by the Government of Australia for adoption at the fifteenth session of the Conference of the Parties. Document FCCC/CP/2009/5

Heyward, M. 2007. Equity and international climate change negotiations: A matter of perspective. *Climate Policy* 7, pp 518-534. Earthscan.

Hohne, N., Penner, J., Prather, M., Fuglestedt, J., Lowe, J., Hu, G. 2007. Summary report of the adhoc group for the modelling and assessment of contributions to climate change (MATCH)

Schneider, S.H., S. Semenov, A. Patwardhan, I. Burton, C.H.D. Magadza, M. Oppenheimer, A.B. Pittock, A. Rahman, J.B. Smith, A. Suarez and F. Yamin, 2007: Assessing key vulnerabilities and the risk from climate change. *Climate Change 2007: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, M.L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, Eds., Cambridge University Press, Cambridge, UK, 779-810.

Solomon, S., D. Qin, M. Manning, R.B. Alley, T. Berntsen, N.L. Bindoff, Z. Chen, A. Chidthaisong, J.M. Gregory, G.C. Hegerl, M. Heimann, B. Hewitson, B.J. Hoskins, F. Joos, J. Jouzel, V. Kattsov, U. Lohmann, T. Matsuno, M. Molina, N. Nicholls, J. Overpeck, G. Raga, V. Ramaswamy, J. Ren, M. Rusticucci, R. Somerville, T.F. Stocker, P. Whetton, R.A. Wood and D. Wratt, 2007: Technical Summary. In: *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.

Rajmani, L. 2006. *Differential Treatment in International Environmental Law*. Oxford Monographs in International Law. Oxford University Press.

Aldy, J, Ashton, J., Baron, R., Bodansky, D., Charnovitz, S., Dirringer, E., Heller, T., Pershing, J., Shukla, P., Tubiana, L., Tudela, F. and Wang, X. 2003. *Beyond Kyoto: Advancing the international effort against climate change*. Pew Center on Global Climate Change.

IPCC.2000. *Special Report: Emission Scenarios. Summary for Policy Makers*.

United Nations, 1992. *United Nations Framework Convention on Climate Change*.