

CHECK AGAINST DELIVERY

'Geography of Climate Justice'

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Association of American Geographers

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I am delighted to be invited by the Association of American Geographers (AAG) this evening and am truly honoured to receive the Association's Atlas award from AAG President, Audrey Kobayashi. I am also very pleased that a previous honoree was Jane Goodall who has done such important work for endangered species, fragile ecosystems and local communities. I feel it is no accident that in the 21 Century this award, associated with such a formidable male figure, has been awarded to two women as its first recipients!

Your Association is almost a century old. It is continuing a great tradition of scientific research and enquiry which goes back for centuries. Thousands of years ago, ancient geographers such as Ptolemy and Strabo were asking questions about the world we live in. Their knowledge of the world was much smaller than what we know today but their motivation was the same.

The Oxford Dictionary definition describes geography as:

“ the study of the physical features of the earth and its atmosphere, and of human activity as it affects and is affected by these, including the distribution of populations and resources and political and economic activities.”

The effects of human activity – now that is not something the ancients needed to be too concerned about. The wealth of the world’s resources seemed boundless then. Today we know all too clearly the limits of the earth’s wealth and the terrible damage we will cause if we do not take steps – urgent steps – to stop destroying the environment in which we live and which too many take for granted.

In approaching the impact of climate change I would like to introduce you to the concept of climate justice. That is the issue which is the focus of my Foundation, the Mary Robinson Foundation – Climate Justice, and I feel it is the defining issue of our time. It is an issue which should have particular resonance for the geographer community, given the potential scale of adverse impacts that the planet is facing, and the diffuse and unequal distribution of those impacts. Just as the impacts affect parts of the world differently, so are countries responsible for the problem

and actions to address it to differing degrees. Addressing these differences in an equitable way is the core of climate justice.

Climate Justice links human rights and development to achieve a human-centred approach, safeguarding the rights of the most vulnerable and sharing the burdens and benefits of climate change and its resolution equitably and fairly. Climate justice is informed by science, responds to science and acknowledges the need for equitable stewardship of the world's resources.

It takes a human rights based approach to combating climate change which seeks equitable outcomes to both protect the vulnerable and provide them with access to benefits arising from our transition to low carbon development. Climate justice has a focus on people – it looks at the causes, the impacts and the solutions to the problem from a human perspective. Climate justice is fully informed by science but it communicates and identifies solutions from the perspective of human needs and rights. As such it seeks equity in the way in which we deal with the negative impacts of climate change (for example, which countries take the lead on cutting greenhouse gas emissions) and equity in accessing benefits (for example, access to off-grid renewable energy for communities living without access to electricity).

It might be best, in this company, if I were to describe my approach to climate justice in terms of geography. I would like to examine how climate change affects different parts of the world and people

differently, how responsibility for the problem is apportioned geographically and how the geopolitics of climate policy influences decision making at the international level.

First, there is the geography of climate change impacts and vulnerability. When we map the outputs of global climate models we see that the physical impacts of climate change are not evenly distributed across the globe. As you will all know, low lying deltas, coasts, coral reefs, mountains, drylands and the polar regions are amongst the regions to be most affected by the impacts of climate change.

We also know that our most populated cities are predominantly on coasts exposed to sea level rise, increased storminess and flooding. The world's urban population now exceeds 3.4 billion people, up dramatically from 260 million in 1900 and this translates to large numbers of people living in locations vulnerable to climate change. Meanwhile the challenges for rural areas, while different, are no less dramatic. Whether climate change manifests itself as an extreme event like a flood or a drought or a more gradual change in growing season and rainfall patterns, the impacts on rural livelihoods are significant.

But physical exposure to climate risks is only one part of the problem. The other aspect is vulnerability and - like exposure to risk - it has a geographical complexion. Put simply, vulnerability is

the ability to cope with risk. The Intergovernmental Panel on Climate Change defines it as *'the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity.'*

That phrase, 'adaptive capacity' is critical to understanding how people cope with the impacts of climate change. Adaptive capacity is a function of wealth, planning, access to resources and technology, skills and know-how and it varies between communities and countries. In general those with least adaptive capacity are the poor, those reliant on climate affected livelihoods, those who are already socially vulnerable and at risk and those whose coping strategies are exhausted.

For this reason a farmer in the US will be in a far better position to cope with changes in rainfall patterns than a farmer in the Sahel. People living in the Sahel are already food insecure due to variable rainfall and high growing season temperatures as well as issues related to governance and rising food prices. As temperatures rise due to climate change, the growing season will be further constricted and the population will become more vulnerable to poverty and hunger related deaths – ultimately driving people out of agriculture and out of the region. These displaced people turn

into what are known as climate migrants and as their numbers grow we will need to find new places for them to live.

A recent CGIAR study looking at temperature and precipitation up to 2050 from global climate models for a broad belt of the Earth between 35 degrees South and 45 degrees North, found that:

- The length of the growing season shifts to less than 120 days in a number of locations across the tropics including Mexico, northeast Brazil, Southern and West Africa and India. This is a critical threshold for a number of staple crops as well as rangeland vegetation.**
- Reliable crop growing days decrease to critical levels below which cropping might become too risky to pursue as a major livelihood strategy in a large number of places across the global tropics, including West Africa, East Africa, and India.**
- High temperature stress (above 30°C) will be widespread in East and Southern Africa, north and south India, Southeast Asia, northern Latin America and Central America**
- Changes in rainfall quantity and quality are expected which are likely to make rainfed agriculture more risky in many parts of the tropics.**

While there is some evidence that mid-to high latitude regions of the world will benefit from lengthened growing seasons in the short term, it is unlikely that sufficient food could be imported from temperate zone countries to balance the food deficit of the tropics.

This is because the expected decline in agricultural GDP, coupled with the continuing rise in global food prices, will simply make commercial purchases of cereals on world markets unaffordable for many of the poorest countries. So, while some parts of the world could potentially grow more food, the parts of the world that need it are unlikely to be able to afford it.

So what becomes clear is that those parts of the world that are most exposed to climate impacts tend to have the lowest adaptive capacity and are therefore most vulnerable. This points to the acute need to adapt to the impacts of climate change and to prioritise those parts of the world that are most vulnerable for our immediate attention. And it equally points to the need to reduce the emissions that are causing the problem – which takes me to my next theme.....

what might be called the ‘geography of responsibility’. The United Nations Framework Convention on Climate Change is founded on an understanding that some countries are more responsible than others for the cause of the problem. There is no doubt that the industrialised countries of the world are responsible for the bulk of greenhouse gas emissions in the atmosphere. Development in these countries has been based on the intensive use of fossil fuels and remains highly reliant on these resources to this day. On the other hand, most developing countries have yet to reap the benefits of this model of economic growth and as a result have contributed less to the problem.

This understanding led to the creation of Annexes to the Convention which determine that countries are essentially developed or developing, Annex 1 or non-Annex 1. Within the Annex 1 countries there is an Annex 2 category which is essentially made up of OECD countries and this group has obligations to provide financial and technical support to developing countries to assist them to address climate change. In this way, back in 1992, when the Convention was created, the lines were drawn for different levels of responsibility for both the causes of the problem and the requirement to act.

In order to bring equity into the process, these differences were enshrined in the Convention under the principle of *common but differentiated responsibilities and respective capabilities*. In accordance with this principle those who have contributed most to the problem, in this case developed countries, should act first to reduce emissions. The principle also recognises differences in capacity to address the problem. Those countries that are richer tend to have more skills, technology and resources with which to control emissions and are committed under the Convention to supporting those countries with less capacity to adapt to the impacts of climate change.

This vital basic principle gives us a pathway by which sustainable development can be delivered, by recognising that there are different levels of responsibility and at the same time different obligations for financial assistance and technology transfer. The

responsibility to assist developing countries to adapt to and mitigate climate change is the second part of the principle. Collectively, developed countries have committed to providing USD 100 billion per year in support for developing countries by 2020 and to improve access to the technologies that will enable the transition to low carbon green growth. Delivering on these commitments is as important as reducing greenhouse gas emissions. It helps to recast climate change as a shared challenge requiring a collective (although differentiated) response.

Of course some emerging developing countries, collectively called the BASIC group, and comprised of Brazil, South Africa, India and China, are now starting to have significant emissions – and this is at the core of disagreements about how to act as an international community to avoid dangerous climate change.

China is now the world's largest contributor of greenhouse gas emissions, accounting for some 25% of the global total, while the US in second place accounts for 18% of global emissions¹. However, the Chinese per capita average is only 5 tonnes per person, which is some way behind the US at almost 17 tonnes per person. Historically, however, the contribution to the total stock of global greenhouse gas emissions by emerging economies such as China and India has been significantly lower than the US or EU.

¹ <http://www.guardian.co.uk/environment/interactive/2011/dec/08/carbon-emissions-global-climate-talks>

This dichotomy between countries with a historic responsibility and countries which are predominantly responsible for current or future emissions has created an intractable Gordian knot in climate negotiations. Major actors are unwilling to stand down from deeply entrenched positions and rapidly developing economies argue in favour of their right to development. It leads to questions about the extent to which the annexes created in 1992 which continue to define countries as developed or developing continue to be applicable today.

In addition, it raises the conundrum of how to reduce greenhouse gas emissions on a global scale, while respecting the right to development for those nations that have not yet attained their development goals. It demands an in depth evaluation of what we mean by equity in terms of global development – how can we source the energy needed to feed the world’s population, power industrial growth and improve standards of wellbeing - while redressing the injustices and inequities of our current systems of trade, consumption and production.

This gets us into the third area I would like to explore - the ‘geography of politics and power’ - geopolitics.

Clearly, arguing over who goes first, who acts when and by how much is at the core of the climate change negotiations. Until we move beyond this debate to decide that we all need to act – to reduce risk and to reduce emissions – we will not make progress.

We are getting closer to this realisation but there is some way to go and I would like to sketch out where the latest round of climate negotiations at COP17 in Durban leaves us in relation to this objective.

At the crux of the Durban negotiations was the need to decide what should happen after the end of the first phase of the Kyoto Protocol at the end of 2012. Since 2007, work has been ongoing to design a new agreement for the post 2012 period with the aim of keeping global warming to less than 2°C above pre-industrial levels. There has been disagreement as to whether this should continue to be a top down international legally binding agreement or whether the objective of reducing emissions could better be achieved through voluntary commitments by countries.

From a Climate Justice perspective, we, in MRFCJ, have argued for a legally binding international agreement as the only way to hold countries to account and to ensure that actions are taken to protect the most vulnerable. Without a legally binding agreement there is no obligation to act. Without a global agreement that includes all countries there is a risk that the voices of the most vulnerable will not be heard, and that the biggest polluters won't do their fair share.

Durban delivered a commitment to develop *'a new protocol, another legal instrument or an agreed outcome with legal force'* by

2015, which would come into force by 2020. Now there are two ways to read this – one is that this risks nothing meaningful being done to cut emissions until 2020. Or, the more optimistic view (which I share) that we now have all countries of the world (including major polluters like the US who didn't ratify the Kyoto Protocol) committed to working together as part of a multilateral process to develop a new legal agreement. There is wriggle room for those countries who are reluctant to sign up to a legally binding agreement in the term 'an agreed outcome with legal force' – however, the majority of countries are committed to a legally binding instrument and this is significant.

Lots of work will need to be done, technical, legal and diplomatic to achieve the 2015 deadline. Four years to agree on many issues which divide us and many of which are core climate justice issues – such as equity, the right to development and the principle of common but differentiated responsibilities and respective capabilities.

Meanwhile, the voluntary commitments made to reduce emissions in Cancun in 2010 need to be implemented and increased. It is expected that the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC) and the outcomes of the 2013-2015 review of the global goal (to keep warming below 2°C) will provide additional evidence and impetus to set emissions reductions targets at a level which will safeguard

us all from dangerous climate change. As part of this effort we will need to start looking at action on climate change – not as a threat to our economies and way of life – but as an opportunity for a better, more sustainable, quality way of life. And of course, you as geographers, cognisant of the inter connectedness of our planetary ecosystems and peoples, are well placed to champion this approach.

The door is now open for a new international and inclusive legally binding agreement to solve the climate change problem. We have a start date, January 2012, a deadline December 2015, and a lot of work to do, barriers to break down and agreement to reach before then. Central to this will be overcoming the divide between developed and developing countries in the climate negotiations. The alliance formed between the EU, the Least Developed Countries and the Small Island Developing States at COP17 started to challenge this divide. It is a move in the right direction that will need to be nurtured and strengthened in the coming years to facilitate an ambitious new agreement.

We also need to keep up the pressure and increase the sense of urgency so that by 2015 Parties are ready to make ambitious commitments to reduce their greenhouse gas emissions. To accompany this we will need transparent and effective ways of ensuring equity related to the pace and scale of emissions reductions with those most responsible taking the lead. This is a

key concern of developing countries who have yet to reap the benefits of fossil fuel powered growth and who fear having their development opportunities quashed by limits on their greenhouse gas emissions. These are core climate justice issues and MRFCJ will be working to mobilise world leaders, thinkers and those with influence to address these issues and find common ground.

I welcomed the outcome of Durban because it marked progress and set a deadline for the delivery of a new climate agreement. It was not the breakthrough needed to solve the problem now, but no one really expected that. Neither was it a failure; in fact it lays down a clear challenge to all the countries of the world – and particularly those responsible for the worst emissions – to get their act together before it is too late. A new roadmap has been set for seriously addressing climate change; we should all play our part in putting pressure on for the world’s leaders to take on their responsibilities.

In Durban those who were willing to act on climate change, the EU, SIDS and LDCs set themselves apart from those who refuted that collective action is needed. Unfortunately the US, Canada and some of the BASIC countries continue to drag their feet and there is a real risk that despite the Durban commitment they will hinder progress. This is where you come in – as geographers you understand how our planet works, how we are all interconnected and how finite resources actually are. You occupy in many ways

the crucial space between our understanding of the natural world, how it affects human life and how human activity continues to shape that world. You are very well placed to take a climate justice and human centred approach to the issue of climate change.

I want to challenge you to speak up for the people living at risk from the impacts of climate change in cities, on small farms, on desert plains and along low lying coasts – I want you to use geography to explain why people in different places experience differing levels of risk and why people are responsible to differing degrees for the problem and for finding solutions. This can set the stage for a discussion about what is right and wrong and why we are morally obliged to act. Only in this way can we enable the citizens of the world to demand more of their leaders to protect them - not just now in the face of economic uncertainty - but also in the longer term and in the interests of a safe world for their children and grandchildren.

We are balanced on a knife edge between the possibility of avoiding dangerous climate change or committing ourselves to irreversible and catastrophic levels of warming. We have a small window of time in which to motivate the leaders of the world to act. I urge you to use your powers of research, argument, teaching and advocacy to send a strong message that people are at risk, and that people must solve the problem. You can do this by championing a climate justice approach.

I would like to thank you all for welcoming me here this evening and the American Association of Geographers for bestowing the wonderful honour of the Atlas Award on me.