International Security Monthly Briefing – December 2011

AFTER DURBAN – THE BIG CLIMATE CHANGE QUESTIONS

Paul Rogers

The Durban climate change conference produced a higher level of agreement than many analysts predicted but its response did not match the scale of the problem. Recent evidence indicates that climate change will be a transforming issue in the coming decades and will require responses that embrace radical changes in our understanding of security.

The Outcome of COP-17

During the 17th Conference of Parties (COP-17) in Durban, expectations of progress were low until the final hours on 11 December when some degree of agreement was reached between the main parties involved. Few had expected that there would be any progress in the consolidating of agreements and frameworks that had stemmed from COP-15 in Copenhagen in 2009 and COP-16 in Cancun the following year. Nor was there much optimism that the original Kyoto Protocol would be replaced and improved.

Much of this was down to a lack of political drive in some of the key industrialised countries, especially the United States, but there was also an enduring view held by newly industrialising states such as India, Brazil and China. This was that they could end up bearing the burden of carbon reductions in a manner that would hugely limit their development prospects, while the older industrialised states that were the main cause of the problem would shirk their responsibilities.

There was a further issue in relation to two countries – Russia and Canada. Both countries are major fossil fuel exporters, with Canada having massive reserves of tar sands, and Russia having the world's largest reserves of gas, as well as substantial oil deposits. Both countries can, moreover, benefit from the early stages of climate change as their extensive near-Arctic regions experience a steady warming with positive effects on agriculture. Neither government is supportive of curbs on carbon emissions, and even before the Durban conference, Canada was reported to be considering withdrawing from the Kyoto Protocol. It formally confirmed its withdrawal two days after Durban.

In the event, the conference agreed in principle to extend the Kyoto Protocol, the details to be finalised at COP-18 in Qatar in December 2012. As well as further progress on the Green Climate Fund, there was also agreement that a new post-Kyoto arrangement should be negotiated by 2015 to come into force in 2020. In one sense this was a relative success, given that many commentators feared that the Durban conference might collapse without any kind of agreement, but a more broadly based view is that it avoided disaster, while failing to respond properly to the gravity of the situation.

Climate Change Accelerating

Shortly before the Durban conference ended, it was confirmed that 2010 saw the highest ever level of carbon emissions from human activity, confirming an estimate from the International Energy Agency reported earlier in the year. According to the IEA, 2010 saw a release of 30.6 gigatonnes of carbon, a 1.6 Gt increase on the previous year. Not only was the release the highest ever, but so was the increase, at 5.2 %. What was really surprising about this was that

the increase coincided with the beginning of what may be a prolonged recession, suggesting that the structure of the world economy, even at a time of recession, is such that the underlying tendency is still towards increased emissions. Because of this, there is now a consensus emerging that the global climate cannot be held to a two degree Celsius rise, the figure widely considered likely to lead to profound world-wide changes, with anything greater than that being potentially catastrophic.

Perhaps even more significant than this immediate trend is the emerging evidence of substantial positive feedback mechanisms which are now beginning to accelerate climate change. This is where the warming of the global temperature affects the earth in ways that encourages further warming, thereby exacerbating the problem. The two most significant that have so far been recognised are the "albedo" effect on melting sea ice in the Arctic and the release of methane from thawing permafrost. The former stems from rising temperatures leading to a loss of sea ice cover. This leads to more open water that absorbs more solar radiation than does sea ice, leading to a further warming and further melting.

While this is a serious matter, it is the evidence emerging from recent research on changes in permafrost that is of far greater concern. Permanently frozen ground, or permafrost, stretches across many of the northern parts of North America and Asia and is ground that may thaw out in its surface layers each summer but remains frozen deeper down. Over a period of about 20 to 30,000 years ago, climatic and geological conditions were such that immense amounts of plant material became frozen and were eventually buried below the surface producing what is in effect, a massive carbon sink. Recent research suggests that the quantities could be as large as two and a half times the total carbon present in the world's atmosphere.

In the ordinary way, this would not be a huge concern, but the problem is that climate change is asymmetric in its effect, one element being that the near-Arctic latitudes that include the permafrost are warming faster than many other parts of the world. As a result, the southern fringes of the permafrost are already starting to melt, with frozen vegetation beginning to decompose. Much of this involves the release of carbon dioxide as respiring micro-organisms break down the vegetation, but in many areas there is insufficient oxygen for this kind of microbial breakdown. Instead, bacteria that break down thawing vegetation under such conditions release methane rather than carbon dioxide into the atmosphere. Methane is around 25 times more potent than carbon dioxide as a greenhouse gas.

The fear is that this will prove to be a much more potent feedback mechanism than the albedo effect. As permafrost melting takes effect, methane release will increase temperatures, particularly in the Arctic and near-Arctic, this will lead to a speeding up of permafrost melting, leading to higher temperatures and so on. One recent computer simulation indicates that permafrost thawing could add 15% to the total carbon release from human activities each year.

Impacts and Responses

As mentioned already, one of the features of climate change is that it is already producing asymmetric effects across the world, not least in the faster warming of the Arctic and near-Arctic. A further example of this asymmetry come from results of climate change modelling that show that most of the world's oceans warming slowly, but most land surfaces warming relatively faster. Those land areas affected include most of Central and South America, the Middle East and North Africa and South and South-East Asia. These are the regions of the

world where the majority of the world's people live and where the majority of the world's food is grown. If, as expected, climate change accelerates, then increased temperatures and consequent decreases in soil moisture will result in serious losses in crop yield leading to sustained food shortages. The consequences of this, in terms of human suffering, pressures on migration and social and political unrest will be severe.

To ensure that such an unstable and potentially fractious future does not evolve, it will be necessary to cut carbon emissions by far higher levels than is currently envisaged in the Kyoto Protocol and further planned agreements. Cuts in carbon emissions in older industrialised countries of around 80% by 2030 are required, along with radical moves towards low carbon economies in the developing states. Two fundamental issues stand in the way of this. One is the deep, though understandable, reluctance of the Global South to bear the burden, given that it is not responsible for the current predicament. The other is the lack of political will in the older industrialised states to contemplate the changes that must be made.

Only if the latter changes will it be reasonable to encourage the Global South to develop along new low-carbon paths, but the attitude in many Northern states has tended to harden. Much of this is due to a clash of ideologies. Northern economies are greatly influenced by free market thinking, which sees the need for a diminishing of state responsibilities and an increase in the free market economy. The problem in the case of climate change is that the move to ultra-low carbon economies cannot be implemented by the working of the free market – substantial state planning and intervention is required but this runs directly counter to the idea of the free market.

Thus the predicament that arises from climate change is that its very existence as a core problem of human welfare strikes at the very viability of free market thinking. In such circumstances it is hardly surprising that there is a deep reluctance to accept that climate change is remotely as serious as is now the case. Indeed, considerable money and other resources are available for think tanks and independent analysts to question the whole problem – climate change denial has been a growth industry for more than a decade.

The Years Ahead

Durban may have achieved more than anticipated, but in the face of the sustained rejection of the very notion of climate change by many influential centres and voices, especially in the Global North, the prospects for getting the required response seem limited. At the same time, three issues are worth bearing in mind. One is that the severe financial problems affecting Europe and North America already suggest that the free market deregulated economic model that has evolved in the past 40 years is open to question. This alone militates in favour of more state intervention, an approach that might also apply to responding to climate change.

The second issue is that there is growing evidence that an early indication of climate change is an increase in the severity of extreme weather events, whether these are tropical storms, droughts, weather-induced wildfires or other disasters. The intensification of such events means that it will be increasingly difficult to ignore the need for transformative and radical action on the causes of climate change. Finally, there are many significant technological developments under way in areas such as energy conservation and renewable energy, some of them likely to succeed in achieving "grid parity" and even exceeding it, making renewable energy sources competitive with fossil fuels. As that happens, there will be a surge of interest in renewable sources, with the real prospect of rapid change.

Even so, such positive change in the face of a global predicament will be much more likely to come about, if more broadly based thinking and planning is undertaken in the very near future. Moving to a more equitable low carbon world will be at least as big a social and economic transformation as the industrial revolution two centuries ago, and at its root will lie the idea of sustainable security. This is a view of security that is people-centred, cooperative and looks long term. Work by independent think-tanks, such as Oxford Research Group, on sustainable security and the development by the New Economics Foundation (www.nef.org/) of the Great Transition Project, and others, is going to be vital to this process. The outcome of Durban, in the context of accelerating climate change, indicates just how urgent is the task.

Paul Rogers is Professor of Peace Studies at the University of Bradford and Global Security Consultant to Oxford Research Group (ORG). His international security monthly briefings are available from the ORG website at www.oxfordresearchgroup.org.uk, where visitors can sign-up to receive them via email each month. These briefings are circulated free of charge for non-profit use, but please consider making a donation to ORG, if you are able to do so.
