

Climate change: from Copenhagen to Cancun

A year after the grim UN climate change negotiations in Denmark that resulted in parties merely 'taking note' of a three-page 'Copenhagen Accord', 194 countries met in Cancun, Mexico. Unlike the furore surrounding the Copenhagen negotiations, expectations were comparatively low-key for Cancun. The Copenhagen conference had damaged faith in the UN climate convention as an effective and legitimate negotiating forum. Restoring confidence in this process was a priority for Cancun. Parties were seeking a modest but balanced outcome across all main elements of the 2007 Bali Action Plan (BAP) which includes adaptation, mitigation, finance, technology, and capacity building. By the end of the two week negotiations, countries had finalized the 'Cancun Agreements', which managed to encompass decisions on each part of the BAP. In addition, the conference was widely recognized as having rebuilt fractured negotiating relationships between parties. The conference proceedings focused on the ongoing efforts of the two ad-hoc working groups that were established to find ways to enhance implementation of the convention and to discuss future commitments under the Kyoto Protocol.

A shared vision for long-term cooperative action?

The Bali Action Plan envisaged parties agreeing to a 'shared vision' for long-term cooperative action, which would include setting a goal for global emissions reductions. Essentially, this 'shared vision' is a short statement showing that there is a common perspective among parties on the problem and how it should be addressed. The Cancun Agreements open by affirming that climate change is one of the 'greatest challenges of our time' and that scaled-up overall mitigation efforts are required to achieve desired stabilisation levels. Developed country parties are to show 'leadership by undertaking ambitious emission reductions' and by 'providing technology, capacity-building and financial resources' to developing country parties. The text, importantly, sets out for the first time in a UN climate conference decision an explicit temperature ceiling: parties agreed to reduce emissions so as to hold the increase in global average temperatures below 2°C above pre-industrial levels. It directly refers to the work of the Intergovernmental Panel on Climate Change (IPCC) as supporting this temperature limit. The decision also provides scope for reassessment of this figure downwards to 1.5°C in the context of a review process. The basis for including this option is rooted in the arguments that the temperature ceiling of 2°C will still be harmful for small island nations.

In this issue...

Achala Chandani Abeyasinghe reviews progress in the climate negotiations while John Carlson discusses the Additional Protocol. Plus the regular features.

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The Cancun Agreements show that although parties managed to specify a long-term temperature goal, they were unable to agree on a goal for reducing global emissions by 2050, nor on dates for when global emissions should peak. Instead, parties agreed to ‘work towards identifying’ them and to deal with the issue at the next UN climate conference in Durban. But the text is short of a plan for how to achieve this ambition within this limited amount of time.

The shared vision also provides a brief summary of the more detailed decisions which follow on from each element of the Bali Action Plan, and how they relate to one another. A positive aspect of this overarching section of the Cancun Agreements is its recognition that adaptation to the climate impacts has equal priority to mitigation. The mobilisation of ‘scaled up... and predictable’ financial resources is seen as necessary to address both the adaptation and mitigation needs of developing countries. Parties have also included text in the shared vision section discussing the complex relationship between climate change mitigation measures and economic development, by saying that the Conference of Parties (COP) ‘realizes addressing climate change requires a paradigm shift towards building a low-carbon society that offers substantial opportunities and ensures continued high growth and sustainable development, based on innovative technologies and more sustainable production, consumption and lifestyles...’

In summary, the shared vision section addresses what it is required to, based on the mandate of the BAP. However, the difficult and critical decisions around a long-term global goal for reducing GHG emissions and a timeframe for global peaking of GHGs have been put off for another year, leaving in place the ‘bottom up’ system of GHG emissions reductions that was established in the Copenhagen Accord.

Adaptation in Cancun agreements: resolving issues

The negotiations in Mexico resolved many of the persistent issues around adaptation. The dedicated section on ‘Enhanced action on adaptation’ in the Cancun Agreements contains a considerable number of practical decisions. As well as setting up an adaptation framework, they establish new institutions such as an adaptation committee, regional centres and an international centre. And a new Green Cli-

mate Fund is to manage the financing of adaptation actions, among other things.

For a number of years, developing country parties fought hard to establish an implementation framework for adaptation actions at the international level—against considerable resistance from developed country parties. Therefore, while the details are yet to be worked out fully, the establishment of the Cancun Adaptation Framework can be considered a significant breakthrough. The framework urges countries to develop adaptation plans and identifies a broad set of priority areas including strengthening institutions, improving observation and information management systems, and adaptation technology. The framework also stresses the importance of improving the quality of countries’ vulnerability and finance ‘needs assessments’. Notably, parties were able to find common ground between those who wanted to merely strengthen existing institutions and those who wanted to establish a new adaptation infrastructure: in addition to setting up the Adaptation Framework, the decision acknowledges the need to better utilise existing institutional arrangements and expertise. On the other hand, difficulties with definitions and scope still trouble the adaptation discussions. For the developing country negotiating groups, reaching agreement on a definition of ‘vulnerability’ has proved a contentious issue. Some developing countries are worried about how any differentiation between them according to ‘categories’ of vulnerability might affect their access to potentially scarce financial resources and support. In the Bali Action Plan, the developing countries that are considered to be particularly vulnerable are the least developed countries (LDCs), small island developing states (SIDS) and countries in Africa affected by drought, desertification and floods. However, this characterisation of particularly vulnerable countries was not carried through to the adaptation text of the Cancun Agreements and appears in a modified form only once in the text on fast-start finance.

The section of the Cancun Agreements devoted to ‘Finance, technology and capacity-building’ gives LDCs; SIDs and African countries priority access to fast-start adaptation finance, while the adaptation section establishes a process enabling them to develop ‘national adaptation plans’ to

identify medium and long-term needs. The combination of these two provisions provides some hope that urgent adaptation needs identified in LDCs' current 'National Adaptation Programmes of Action (NAPA)' will receive a kick start, and that longer-term adaptation planning in LDCs will be supported. The specific paragraph in the adaptation section on the provision of finance is not particularly strong, but is consistent with what developing country parties have been calling for since Bali. Further negotiations on operationalizing the newly-established Green Climate Fund will shed more light on how adaptation funding will be handled in the future. Despite the fact that not all developing country party demands on adaptation have been met by the Cancun Agreements, there is a sense that the more coherent treatment of the issue in this text has finally overcome the inertia that has been delaying progress since Bali. But while the Cancun decisions on adaptation provide a clearer blueprint for dealing with climate change impacts, much of the detail is yet to be agreed, and most believe that the hardest work still lies ahead.

The Cancun Agreements: a new financial mechanism

The Cancun Agreements made significant progress on future climate finance by formalising the financial commitments made under the Copenhagen Accord. Consequently, the Cancun decision lists specific amounts of financial support that developed countries need to provide—in specific time-frames—to support developing countries. The decision also outlines a governance structure to manage the flow of these funds under the international climate change regime.

In the near-term, developed countries agreed to greater transparency on the delivery of their pledge to provide US\$30 billion in climate finance between 2010 and 2012—through annual reporting to the UNFCCC Secretariat in 2011, 2012 and 2013. This pledge was initially made under the Copenhagen Accord, as 'fast start' finance for implementing mitigation and adaptation activities in developing countries. The funds are meant to have a 'balanced allocation' between adaptation and mitigation. And, as indicated above, funding for adaptation will be prioritised for the most vulnerable developing countries, such as the LDCs and SIDS. As a recent report from the International Institute of Environment and Development shows, countries have

already met their US\$30 billion pledge. However, this financing was largely provided within the framework of official development assistance (ODA), using established bilateral and multilateral channels. As a consequence, there is intense discussion over how much of these pledges are in fact 'new and additional' and even on what 'new and additional' actually means. The Cancun Agreements do little to clarify these matters. In addition to near-term finance, developed country parties formalized their pledge from Copenhagen to mobilise US\$100 billion a year by 2020. However, the modalities and procedures for providing this long-term funding have yet to be defined, including the sources of funding—which may be both public and private, bilateral and multilateral, or from alternative sources.

The Cancun Agreements also include the establishment of a 'Green Climate Fund', which will manage a portion of the abovementioned funding commitments. It was agreed that the Green Climate Fund will be comprised of a board with equal representation of developed and developing countries, but many details have yet to be worked out. The Cancun Agreements invite the World Bank to serve as the interim trustee of the new fund, though this proved to be a controversial decision. Its role is to be reviewed after three years. A Transitional Committee will work on finalizing the design of the Green Climate Fund, according to the terms of reference set out in the Cancun Agreements, and this body is meant to submit its recommendations on this for approval at the Durban meeting. The terms of reference specify that the fund should have mechanisms to ensure stakeholder input and participation. It should also have mechanisms to ensure that it applies environmental and social safeguards, and internationally accepted fiduciary standards and sound financial management to the fund activities. In addition, the fund will be subject to periodic independent evaluation. In response to a key demand from developing countries, the fund will also have the capacity to provide 'direct access' to national institutions, without the intervention of international implementing agencies like the World Bank and United Nations agencies.

The Cancun Agreements also establish a Standing Committee to assist the COP with coordinating delivery of climate change financing and rationalisation of the various elements

of the financial mechanism. The committee should assist the COP with the mobilization of financial resources. And it will help with measurement, reporting and verification of the support provided to developing countries so that the conference of parties and the international community can check that developed countries are fulfilling their commitments.

In summary, the decision on finance in the Cancun Agreements contains several positive, substantive elements. And since financing climate change action is a key factor in tackling climate change, this can be considered a major step forward. However, the agreements provide only a skeletal framework for the fund. Considerable work is required to flesh it out quickly in advance of the Durban conference due at the end of 2011.

Cancun agreements and REDD+

The potential of the REDD+ mechanism to provide valuable benefits to developed and developing countries alike has raised its political profile considerably. The mechanism comprises several elements: reducing emissions from deforestation and forest degradation (the 'REDD' part) and conservation of forest carbon stocks; sustainable management of forests; and enhancement of forest carbon stocks (the '+' part). The Copenhagen Accord called for the establishment of a mechanism for funding REDD+, but the Cancun Agreements were not so successful in establishing such a mechanism. Instead, the agreements take a less formalised, hortatory approach to establishing REDD+ regimes in developing countries: developing country parties are encouraged to contribute to mitigation actions in the forest sector; and such activities should be implemented in accordance with guidance and safeguards set out in the decision. The text adds that the safeguards should be 'promoted and supported'—implying that countries should be proactive in this area. The safeguards—which had been vigorously advocated by civil society groups—include respect for the 'knowledge and rights of indigenous peoples and members of local communities', consistency with the 'conservation of natural forests and biological diversity', and also consistency with relevant international conventions and agreements. Developing country parties are also requested to address the drivers of deforestation and forest degrada-

tion, land tenure issues, forest governance issues, and gender considerations.

The REDD+ decision stipulates that countries can use a phased approach to REDD, starting with development and planning, followed by implementation of policies and finally 'results-based actions' that should be fully measured, reported and verified (MRV). Developed country parties are urged to provide the financial, technological and capacity-building support required to implement REDD+ activities. However, there are a number of unclear areas in the Cancun Agreements related to REDD+. It is not clear whether or not the REDD+ mitigation activities will fall under the same procedures and guidelines as the broader set of 'nationally appropriate mitigation activities' (NAMAs) to be carried out by developing countries. As pointed out in a recent report from the World Resources Institute, this aspect needs to be clarified as it could have implications for funding of REDD+ activities at the end of the 'fast-start' financing period in 2012. This issue will need to be addressed under the work programme established by the Cancun Agreements for elaborating the 'modalities and guidelines' for NAMAs. Although a number of questions around the development of a global REDD+ regime remain unanswered, parties have managed to lay down a framework within which the nuts and bolts of the scheme can be negotiated. That process will begin in Bonn this June and is expected to take two years.

Technology and transfer

The Cancun Agreements recognise that rapid reductions in emissions and adaptation to climate change requires large-scale diffusion and access to environmentally sound technologies. In the Bali Action Plan negotiations, the Group of 77 and China proposed setting up a Technology Mechanism to facilitate this paradigm shift. Cancun saw the establishment of this mechanism—including a provision specifying that technology needs must be 'nationally determined' and 'based on national circumstances and priorities.'

The new Technology Mechanism will consist of a 'Technology Executive Committee' (TEC) and a 'Climate Technology Centre and Network' (CTCN) both of which are required to report to the COP on their activities and perform-

ance. The Cancun Agreements have also established a work programme on technology development and transfer. But while agreement was reached on these institutional components, it should be noted that the contentious issue of intellectual property rights (IPR) associated with the transfer of technology was omitted from the Cancun Agreements, but it became clear that consensus would not be reached. Given the relative progress of technology development and transfer under the Bali Road Map, the outcomes of the Cancun Agreements are not surprising. However, there is work to be done on building the CTCN, and technology transfer could yet face significant barriers due to difficulties with IPR. In addition, the technology development and transfer section of the agreements do not address financing issues; therefore, the outcome of discussions on the Green Climate Fund in the Transitional Committee will be critical to the future of the Technology Mechanism.

Negotiations under the Kyoto Protocol

The result of the work of the Kyoto Protocol negotiating track in Cancun is contained in a brief two-page decision. The text refers to the IPCC's fourth assessment report, which states that limiting the potential damage of climate change would require Annex I Parties (developed countries) as a group to reduce emissions within a range of 25 - 40 per cent below 1990 levels by 2020. The decision also says that the protocol working group must complete its tasks in time to ensure that there is no gap between the first and second commitment periods. Importantly, the decision takes note of the emission reduction targets that Annex I parties communicate to the UNFCCC under the Copenhagen Accord. This re-enforces the 'bottom up' approach to developing Annex I emission reduction targets arising out of negotiations under the convention track and forges a link between the work on mitigation under the two ad hoc working groups. Unfortunately, assessments of Annex I pledges made thus far show that they fall short of achieving the shared long-term vision of limiting average global temperature warming below an increase of 2°C from pre-industrial levels. Even though parties failed to agree on a second Kyoto Protocol commitment period in Cancun, the decision does set out some of the parameters for it. Parties agreed that 1990 will be the base year from which reduction targets should be calculated. Emissions trading and the project-based

mechanisms under the Kyoto Protocol will continue to be available mitigation instruments.

The end of the first commitment period under the Kyoto Protocol, 31 December 2012, is fast approaching and much remains to be done to put in place an adequate mitigation framework. By mentioning a second commitment period and aiming to avoid a gap between commitment periods, Cancun has signaled that the Kyoto Protocol is still alive. However, how this could be achieved is unclear as certain countries such as Japan and Russia have explicitly mentioned that they would not support the second commitment period of the Kyoto Protocol.

The road to Durban

The Cancun Agreements mark a significant breakthrough in the difficult and protracted discussions on future climate change action. Symbolically, the agreements show a continued commitment by the world's governments to the UNFCCC process—a remarkably quick recovery after the breakdown of talks a year earlier in Copenhagen. Substantively, they provide forward momentum on a number of fronts. After several years of resistance to the creation of new mechanisms and institutions by various negotiating groups, the Cancun Agreements envisage the establishment of mechanisms for guiding regimes on technology development and transfer, REDD+, finance and adaptation. While the modalities and procedures for achieving a long-term global goal for emissions reductions have yet to be decided, there has been agreement to limiting global warming to a 2°C temperature increase, with scope for revising this goal downward to 1.5°C in the future. This is the good news. But it has taken three years for parties to agree on a framework to operationalize the 2007 Bali Action Plan. The Cancun Agreements lay out an ambitious workload for parties to negotiate before the Durban conference. It is to be hoped, therefore, that sufficient time is given to the process by the international community in the coming months to enable as much ground to be covered as possible.

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Is the Additional Protocol 'optional'?

The 'Additional Protocol' is so-called because it supplements a state's safeguards agreement with the International Atomic Energy Agency (IAEA). The Additional Protocol (AP) substantially strengthens levels of assurance on the peaceful nature of nuclear activities in countries that have 'comprehensive' safeguards agreements, by broadening the information to be reported to the IAEA and the access given to inspectors. Without these extra measures, the IAEA's ability to detect undeclared nuclear activities is substantially reduced. The AP is, consequently, an essential component of the nuclear non-proliferation regime.

All non-nuclear-weapon states (NNWS) that are party to the 1968 Nuclear Non-Proliferation Treaty (NPT) are required to have what are known as comprehensive safeguards agreements in place covering all their nuclear material. When the need to strengthen IAEA safeguards with respect to the detection of undeclared nuclear activities became obvious, the 'Model Additional Protocol' was developed. The Model AP (INFCIRC/540), which provides a template for what an AP supplementary to a safeguards agreement should look like, was agreed by the IAEA's Board of Governors in 1997.

During negotiations on the Model AP by the IAEA Board (which ran from 1996 to 1997), some participants said they regarded the adoption of an AP by a state as a 'voluntary' undertaking. The two IAEA Directors General involved at the time, Hans Blix and his successor Mohamed ElBaradei, agreed with this proposition. More recently, the final document of the 2010 NPT Review Conference noted 'it is the sovereign decision of any state to conclude an additional protocol'.

As of 4 March 2011, 135 states—two-thirds of all NPT parties—had signed an AP. Of these, 106 have their APs in force. Although the AP is not yet universal, it is important to note the very high uptake by those NNWS party to the NPT that have 'significant nuclear activities'. Such activities

encompass any amount of nuclear material in a facility or 'location outside facilities', or nuclear material in excess of the exemption limits specified in paragraph 37 of the standard comprehensive safeguards agreement (IAEA document INFCIRC/153). There are 62 NNWS parties to the NPT with significant nuclear activities: 55 of these—almost 90 per cent—have signed an AP, and 47 (or more than 70 per cent) have their AP in force. These figures show that the combination of a comprehensive safeguards agreement and an AP is now clearly established by international practice as the NPT safeguards standard.

There are, however, seven NNWS parties to the NPT with significant nuclear activities that have not yet signed an AP. One of these—Algeria—had a draft AP approved by the Board in 2004 but has not signed it. Six—Argentina, Brazil, DPRK, Egypt, Syria and Venezuela—have not commenced negotiation of an AP with the IAEA, and at least three—Brazil, Egypt and Syria—have said that they have no intention of doing so (DPRK is included here because, although it gave notice of withdrawal from the NPT in 2003, the validity of this withdrawal has not been determined). Also of concern is Iran, which signed an AP in 2003, and began applying it on a provisional basis, but then 'suspended' it in 2005.

This paper discusses whether the AP is, in fact, 'voluntary', whether the remaining AP holdouts are right to regard it as optional, and what is to be done about the situation.

Background—why the Additional Protocol

When a NNWS joins the NPT it undertakes to accept safeguards, as set out in an agreement to be concluded with the IAEA in accordance with the IAEA's Statute and 'the Agency's safeguards system', for 'verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons' (NPT Article III.1). Safeguards are to be applied on all 'source or special fissionable material' (a

phrase encompassing depleted, natural and enriched uranium as well as plutonium and thorium), in all peaceful nuclear activities within the state's territory, under its jurisdiction or carried out under its control anywhere. A standard safeguards agreement for this purpose—i.e. INFCIRC/153—was approved by the Board in 1971, and has been in use ever since.

The Agency's 'safeguards system' that has evolved since 1971 is based on the standard agreement set out in INFCIRC/153, but it is now much more than this. To have a full appreciation of the safeguards system it is necessary to look beyond INFCIRC/153, both upwards, to the IAEA's Statute and decisions of the Board, and downwards, to: (a) instruments supplementary to safeguards agreements, such as subsidiary arrangements and facility attachments; (b) IAEA Secretariat documents such as Safeguards Manuals, the Safeguards Criteria, the integrated safeguards conceptual framework, etc.; and (c) safeguards implementation procedures and techniques.

These various components provide a degree of flexibility in 'the Agency's safeguards system', which has enabled the Board and the Secretariat to adapt the safeguards system to meet changing circumstances over some four decades. This adaptability is a key strength, essential to maintaining and improving the effectiveness of the system.

It is clear from the terms of the NPT that NNWS parties are obliged to declare all their nuclear material for safeguards, and the IAEA has both the right and the obligation (as set out in INFCIRC/153 paragraph 2) to verify that states do so—now generally termed the 'completeness' of states' declarations. For the first two decades after the NPT, however, safeguards practice focused on verifying declared nuclear material (which, in essence, involved only confirming the correctness of declarations). It was thought that any undeclared nuclear material or activities would be revealed through diversion of declared nuclear material or misuse of declared facilities—and in any case neither the procedures nor the technologies had been developed for detecting undeclared nuclear programmes.

The discovery of Iraq's clandestine nuclear weapon pro-

gramme in 1991 showed the weaknesses in safeguards practice at that time. It became evident that if a state has undeclared nuclear material or activities it is quite likely there will be no obvious links between these and the declared nuclear programme. International attention turned to how to strengthen the safeguards system, with particular emphasis on the need to develop capabilities to detect undeclared nuclear material or activities. These efforts became known as 'Programme 93+2' (so called because it scheduled to start in 1993 and was expected to take two years), undertaken by the IAEA with the assistance of supporting states.

Programme 93+2 addressed two broad areas: technical (the procedures and technologies needed to detect undeclared nuclear material or activities) and legal (whether any additional formal arrangements were required to cover new safeguards activities). Amongst experts analysing the legal aspects, there was debate about whether the IAEA really needed additional legal authority. A number of experts considered that the provisions already contained in INFCIRC/153 for special inspections were sufficient to support the new safeguards procedures under discussion, and simply needed to be put to use. Special inspections, which may involve access to locations or to information, may be carried out in cases where information made available by the state is not considered adequate for the IAEA to fulfil its responsibilities. To date, for various reasons, special inspections have been rarely used, but they are an important part of the safeguards toolbox nonetheless.

Other experts maintained that an ad hoc approach based on special inspections would not be the best way for the IAEA to obtain the information and access necessary to effectively fulfil its responsibilities. By the end of Programme 93+2 this view prevailed, and it was decided to develop a standard set of reporting requirements and procedures, applicable to all states. Hence the idea of the AP came into being.

Is the AP really voluntary?

In a formal sense all treaties are 'voluntary'—it is a sovereign decision for a state whether it accedes to a particular agreement or not. However, the circumstances of the AP are different to those of a new agreement. The AP does not

present significant new commitments, but rather is an elaboration of existing commitments, already undertaken in the NPT and INFCIRC/153 safeguards agreements:

(a) under the NPT, NNWS agree to accept IAEA safeguards to verify non-diversion of nuclear energy, and to accept IAEA safeguards on all their nuclear material. An important aspect of this is that there should be no nuclear material 'undeclared' to safeguards. The IAEA has both the right and the obligation to verify the fulfilment of these commitments. As Director General Yukiya Amano emphasised at the 2010 NPT Review Conference, 'the AP is of vital importance for the Agency to be able to provide credible assurance not only that declared nuclear material is not being diverted from peaceful uses, but also that there are no undeclared nuclear material and activities in a state';

(b) under the NPT, NNWS agree to accept 'the Agency's safeguards system'. This system is not static—indeed INFCIRC/153 did not exist in 1970 when the NPT came into force. The Agency's safeguards system comprises many elements, and has undergone substantial evolution over the years. Almost 90 per cent of NNWS parties to the NPT with significant nuclear activities have signed an AP. International practice therefore demonstrates that the contemporary form of the Agency's safeguards system is the combination of a comprehensive safeguards agreement and an AP.

The AP was developed specifically to address weaknesses in safeguards implementation, in order that the IAEA can more effectively fulfil its mandate under the NPT and safeguards agreements. The AP should not be regarded as 'optional'; the safeguards system, in which the AP plays an integral role, is not a smorgasbord, where states are free to choose the bits they like and leave out those they don't. The IAEA Board, representing the organization's membership, has determined that the procedures under the AP are essential for the IAEA to meet its responsibilities under the NPT to ensure that all nuclear material in NNWS remains in non-explosive use.

The high uptake of the AP indicates that the view it is optional is not widely shared—but some significant states are

amongst the holdouts, including states that hope to expand their nuclear programmes or to establish new programmes. It seems a number of factors are in play, including:

(a) a politicization of attitudes towards safeguards that has occurred in recent years—particularly worrying as it could imply a weakening of consensus support for non-proliferation. This is reflected by the Non-Aligned Movement's (NAM) opposition at the 2010 NPT Review Conference to a consensus statement that the AP is the NPT safeguards standard. It seems some members of the NAM have lost sight of the importance of safeguards as a technical verification mechanism that benefits, not the West or the global 'North', but every state. Safeguards should be recognized as being an essential tool to dispel suspicions, and to help states demonstrate to neighbours and the international community that they are meeting their treaty commitments. To argue for less effective safeguards—safeguards without the AP—is contrary to their own national interest, which is to have a safeguards system that is more, not less, effective;

(b) a lack of understanding as to what the AP involves. For example, at the end of January 2011, Reuters reported statements by the Syrian President Bashar al-Assad that 'nobody will accept to sign it' (in fact 135 states have done so) and inspectors can 'come any time to check anything under the title of checking nuclear activities, you can check anything'. These comments suggest that he has not been well briefed on the AP. In addition, remarks from some Brazilian officials reinforce the impression that the AP provisions on access, including managed access, are not well understood;

(c) the unwillingness to date of major nuclear suppliers to insist on the AP as a condition of supply. The Nuclear Suppliers Group has struggled unsuccessfully for some years to reach agreement on the AP as a condition for new nuclear supply. It has not helped in this endeavour that two NSG members (Brazil and Argentina) are amongst the AP holdouts. The major nuclear suppliers are members of the G8, and, for several years, G8 summits have endorsed the AP as a condition of supply. Yet a number of G8 members are considering nuclear supply contracts with states that not only have no AP, but even make a point of refusing it (e.g. Egypt).

What can be done?

Refusal to accept the most effective form of safeguards, of which the AP is an essential component, erodes confidence in the peaceful intent of the states involved. There is no reason to refuse the AP to protect legitimate national security and commercial interests. When INFCIRC/540 was negotiated, these interests were raised by a number of participants, and the AP text is careful to specify the extent of the IAEA's access rights and the state's right to establish managed access arrangements. The international community will draw the conclusion that, like with Iran's 'suspension' its AP, those states that continue to refuse an AP are worried about what the IAEA will find.

Supporters of the non-proliferation regime need to do all they can to persuade those who have not concluded APs do so without further delay. This is particularly the case for nuclear suppliers, which have considerable 'leverage' at their disposal. Actions that could be taken to persuade the hold-outs to reconsider include:

(a) outreach: to the extent that refusal of the AP may reflect inadequate understanding of its provisions, and inadequate understanding of NPT commitments, further diplomatic and technical outreach efforts may help to dispel misplaced concerns. Further outreach should also help to persuade those states without significant nuclear activities that have yet to sign an AP to do so, and to assist those that have signed but not yet ratified to move forward. A number of states and the European Commission are assisting the IAEA with AP outreach. Other states should consider what they can do to contribute to these efforts in their own region;

(b) establishing the AP as a condition of nuclear supply: the G8 has adopted the AP as a principle but its members have yet to follow through. The NSG is close to adopting the AP as a condition but is not quite there yet. Effective safeguards are essential to ensure that nuclear cooperation and trade are for peaceful purposes only; suppliers must stop prevaricating on the requirement for an AP;

(c) if necessary, the IAEA must consider other mechanisms for obtaining the information and access required to meet its safeguards responsibilities. The AP is an elaboration, a

standardization, of information and access the IAEA could require under the special inspection provisions of INFCIRC/153. Taking an ad hoc approach through these provisions is not ideal, but is preferable to the continued application of less effective safeguards in the holdout states.

Conclusion

The NPT requires NNWS to accept the 'Agency's safeguards system' to verify that all their nuclear material is in non-proscribed use. An essential part of this is to be able to derive assurance that there no nuclear material and activities exist outside safeguards. It cannot be considered satisfactory that the IAEA has to issue qualified safeguards conclusions—for those states with an AP it can provide credible assurance of the absence of undeclared nuclear material and activities, but for those states without an AP it cannot. This situation does not meet the terms of the NPT. It would be an affront to the great majority of states who have accepted the AP for this situation to continue indefinitely.

High-level representations are warranted with every state that claims less effective safeguards are good enough. It is to be hoped that changes in leadership in Brazil and Egypt, two key states for the AP, will lead to a reconsideration of attitudes to date. Since refusal of the AP has been made a political issue by the main holdouts, it may be necessary to consider a campaign at heads of government level, similar to the Nuclear Security Summit process that was so successful last year.

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Obama administration considers CTBT drive

Reports have emerged that the Obama administration may be considering a push for US ratification of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) in spring of this year, in spite of likely opposition within Congress. The Kyodo News agency was reportedly informed by a 'senior U.S. official and a specialist close to the government' that it is to publish a new report providing technical evidence in support of the CTBT to the Senate in March. It is hoped that this report will initiate a debate in Congress on the merits of full ratification of the CTBT, which was rejected once previously by the US Senate in 1999. The United States is one of 44 'Annex 2' states that must ratify the treaty before it can enter into force. Thirty-five of these states have already completed the ratification process. The eight other ratifications that are also still required are those of China, Egypt, India, Indonesia, Iran, Israel, North Korea and Pakistan.

Additional indications of a possible ratification effort in Washington appeared in the early months of 2011. Speaking in January, Assistant Secretary of State Rose Gottemoeller, the Obama administration's top negotiator for New START, praised the level of congressional interest in the treaty and claimed that its ratification by the Senate in late December 2010 had revived the issue of arms control in American political debate. She added in a February interview that 'there is a very good case to be made that the Comprehensive Test Ban Treaty is now at a point' where ratification has become a realistic possibility. Under-Secretary of State for Arms Control and International Security Ellen Tauscher also confirmed in February that attempts would be made in the 'coming months' to 'educate the public and the Senate on the significant advances on both stockpile stewardship and our ability to monitor explosions', though she made no indication of when a ratification push might go ahead.

The New START treaty passed through the Senate with a 71-26 majority, after a difficult and contentious ratification debate. Interpretations of the impact of the New START vote on CTBT ratification differ, with many congressmen doubting the likelihood of a significant push on the test ban

treaty issue in the near future. A Republican memo in the aftermath of the vote observed that New START was ratified with 'the lowest vote count ever for a ratified major arms control treaty' and considered that 'CTBT is effectively off the table'. John Kerry, an influential Democrat Senator, said in December 'I think it's way too early to start to scope out what will or will not happen with the CTBT.'

The administration has also been forced to defend New START after the vote following the accusation by Republican Senator Jon Kyl that there was 'no meeting of the minds' between the US and Russia on the issue of future American antimissile systems—raising the prospect of a Russian withdrawal from the treaty. President Obama subsequently issued a statement to Congress in which he stated 'continued improvement and deployment of United States missile defense systems do not constitute a basis for questioning the effectiveness and viability of the treaty.' He also restated his desire to commence new negotiations on addressing the 'disparity between the non-strategic (tactical) nuclear weapons stockpiles' of the two countries. Vice-President Joseph Biden discussed this issue with President Dmitry Medvedev and Prime Minister Vladimir Putin during a visit to Moscow in early March.

Elsewhere in the world, the issue of CTBT ratification has recently surfaced in Indonesia (which has signed but not ratified the treaty) and in Russia (which has done both). In December of last year, the Indonesian Foreign Minister Marty Natalegawa began the administrative process of ratification by submitting a bill to the House of Representatives in Jakarta. Meanwhile, in February of this year, Russian Foreign Minister Sergei Lavrov urged the remaining Annex 2 states to join the treaty, asserting that: 'Unilateral moratoriums on nuclear tests are useful, but they cannot substitute this obligation, which is key to global security.'

Mikael Shirazi, London

Green Climate Fund: enhancing the role of civil society

At the UN climate change conference held in Cancun, Mexico, last December, parties adopted a decision establishing a ‘Green Climate Fund’ (GCF). The GCF will be ‘an operating entity of the financial mechanism of the convention’ undertaking an as yet unspecified role among other pre-existing convention funds. The conference of parties also agreed to a decision specifying the amounts of finance that developed countries are expected to provide for climate action in developing countries—US\$30 billion in fast-start funds (2010-2012), and, long-term, US\$100 billion per year by 2020 (to come from a variety of sources—including both public and private, as well as bilateral and multilateral). The precise relationship between the Green Climate Fund mechanism and the promised amounts of finance is not yet clear.

A ‘Transitional Committee’ was also set up to work on fleshing out how the GCF should operate in practice. And it still has to be decided how (and from where) the GCF will source its funds and then distribute them. The committee is meant to include 15 members selected from developed countries and 25 from developing countries (seven each from Africa, Asia, the group of Latin American and Caribbean states, and two each from the small island developing states and the least developed countries). The Green Climate Fund (GCF) will ultimately seat 24 members, equally divided between developed and developing states.

The ‘Cancun Agreements’—as the collection of decisions reached in Mexico have come to be known—invite the World Bank to take up the role of trustee of the fund for a period of at least three years. Already, the World Bank plays a significant role in climate finance. It is trustee to the Global Environmental Facility (GEF) which, since 1991, has allocated USD 9.2 billion to projects, supplemented by more than USD 40 billion in co-financing. In addition, the Bank is a trustee to the Climate Investment Funds (CIF), which after three years in operation amount to USD 6.4 billion. It also plays a significant role in climate & forest finance. As interim trustee for GCF, the Bank can draw on over 60 years of experience in global governance and technical financial instruments. Andrew Steer, the Bank’s Special Envoy for Climate Change, notes: ‘What the world really needs

now is scale... That requires an agency that can operate with large financial packages, engage with governments on monetary issues, bring together different types of finance and that has engagement across a range of sectors. And we are privileged to have expertise and experience in those areas.’

The Bank has not, however, been given a role in fund design, but is limited to financial administration. But the Cancun Agreements stipulate that staff from international financial institutions, amongst others, may be seconded to provide technical support to the Transitional Committee. The technical assistance the Bank might be asked to provide could enhance its influence as interim trustee. Consequently, parties and stakeholders have expressed several concerns about the role of the Bank as interim trustee: (i) GCF should administer grants, not loans, and therefore the Bank is not a suitable choice (ii) The Bank is insufficiently motivated to address climate change as indicated by its large-scale funding of carbon-heavy development paths for growth and poverty alleviation, and (iii) The Bank’s own climate funds may be in competition for funding with GCF, hence a conflict of interest.

To attempt to assuage such doubts, the Bank could promote a central role for civil society in MRV (measurement, reporting and verification) within the GCF. The terms of reference for the GCF request that it includes mechanisms to ensure stakeholder input and participation. But some observers feel that civil society has not been sufficiently acknowledged. However, facilitating a greater place for this constituency would have many benefits in terms of accuracy, completeness and comparability in MRV. Civil society participation would also increase transparency and accountability from national authorities. The Bank is in a good position to promote a more formal civil society contribution. In poverty alleviation it has overseen broad forums for civil society participation within its Poverty Reduction Strategies process. That experience could be fruitfully utilised in this context. Likewise, civil society can ensure greater transparency and accountability for climate finance and the Bank in this way.

Though the Cancun Agreements provide a clear framework for climate action, they do not provide much in the way of

detail. Consequently, the Transitional Committee has a lot of work to do before it can present its recommendations to this year's UN climate conference in Durban later this year. But it is important the role of civil society in MRV is developed, as this can ultimately encourage broad-based support for and trust in GCF climate mitigation and adaptation initiatives.

Joseph Burke, London

DG Amano outlines organizational change at IAEA

The director general of the International Atomic Energy Agency (IAEA), Yukiya Amano, has set out a plan to remould the top-level bureaucracy of the Agency. In a note to the IAEA Board of Governors earlier this year, Mr Amano announced the closure of the Office of External Relations and Policy Coordination (EXPO), and the incorporation of the majority of its duties into a new Director General's Office for Policy (DGOP). The DGOP will also replace the Office of the Director General (DGO). The move is effective as of 1 April 2011. The amalgamated office will be headed by Rafael Grossi, Amano's chef de cabinet. Mr Amano also publicly elaborated on his plans in his statement to the Board earlier this month as it opened for its annual March discussions. The aim, he said, is to 'streamline our operations, strengthen policy and strategic planning and improve policy coordination and implementation.'

Currently, the DGO sits atop the IAEA infrastructure, with EXPO operating directly under it – but as an independent unit. Reports surfaced in 2009 of an internal dispute between EXPO and the Department of Safeguards (one of the six large operational units of the agency) over how to deal with the issue of the suspected weaponization of the Iranian nuclear programme, undermining the ability of the IAEA to put forward a united public front. This reorganisation is 'in part meant to eliminate the bureaucratic source of these conflicts', says Mark Hibbs, senior associate with the Nuclear Policy Program at the Carnegie Endowment for International Peace. The new unit will have three main functions. Firstly, it will manage the IAEA's external relations, in particular with member states, the United Nations, and non-governmental organisations. Secondly, it will lead on policy planning and strategy formulation, to ensure that

the agency's activities are in line with the guidance of its member states and its Medium Term Strategy. Thirdly, it will focus on implementing policy coordination amongst the Agency's various departments.

Mikael Shirazi, London

Chemical plant blaze underlines need for security

In January this year, Chemie-Pack, a chemical packaging plant located in the Netherlands, caught fire leading to a vast cloud of smoke and 41.5 million euros worth of damage. Though there were initial fears that the smoke was toxic, it turned out that this was not the case. But concerns remain over how 23,500 liters of chemicals could have been accidentally released into the air. The Netherlands has many laws and regulations concerning chemical plant safety and security. In the case of Chemie-Pack, inspections had revealed a number of non-compliance issues such as the lack of a risk-analysis, insufficient fire prevention measures and the lack of personnel safety training. The company therefore faced administrative fines on a number of occasions. It was issued a license in 2010 based on its most recent inspection in 2009. Now Dutch prosecutors believe Chemie-Pack was acting in violation of its license and have started a criminal investigation against the company.

This incident, which occurred approximately 65km from the headquarters of the Organisation for the Prohibition of Chemical Weapons (OPCW) in The Hague, highlights the importance of laws and regulations for chemical plant safety and security—and their robust enforcement. The 1993 Chemical Weapons Convention (CWC) requires its parties to adopt national laws and regulations to implement the treaty, including assigning '...the highest priority to ensuring the safety of people and to protecting the environment...' and to cooperating '... as appropriate with other States Parties in this regard'. Chemical plant safety and security is starting to receive more attention as the focus of CWC implementation begins to shift away from chemical weapons stockpile destruction towards nonproliferation of chemicals, particularly those which are [scheduled ones] subject to monitoring by the OPCW. During an OPCW exercise on chemical terrorism in Warsaw, Poland in November last year, the links between chemical plant safety

and security and preventing chemical terrorism were underscored. It was noted that ‘national measures to cope with industrial and transportation accidents or environmental catastrophes form an integral part of the national capacity to mitigate CBRN [chemical, biological, radiological, nuclear] risks’ and that ‘resources, technical means and procedures established to respond to industrial accidents can effectively be utilized to save lives after a terrorist release of a toxic chemical.’ A seminar due to be held at the OPCW between 11-12 April 2011, will emphasize chemical plant and transportation security, and other topics on nonproliferation of chemicals, as part of discussions on the changing role of the OPCW.

Yasemin Balci, London

REDD: monitoring emissions and governance

There are several initiatives currently active in the REDD area, such as the World Bank’s Forest Carbon Partnership, the Forest Investment Program and a number of bilateral partnerships, for example, between Norway and Indonesia. Much time and effort have been invested in trying to making progress on tackling deforestation through these initiatives, outside the UN climate change convention negotiating process. During the 2009 UN climate conference in Copenhagen, parties appeared keen to establish a REDD+ mechanism to mobilise funds for developing countries to tackle deforestation. However, REDD+ is now at a difficult moment in its evolution. There still remains a significant impasse on the proposed mechanism’s final configuration. A number of crucial issues remain unresolved, such as how to ultimately finance actions (using carbon markets or preserving a fund-only approach) and how social safeguards are to be operationalized. A further consideration is how it should fit with procedures developed to govern other climate mitigation actions, and measurement, reporting and verification (MRV) processes.

Consequently, some have made the bold argument for REDD+ to be separated from the UNFCCC process altogether. While such calls are motivated by very real problems, it seems premature at this stage to make such a move. The UNFCCC process can be painfully slow, especially for

programmes like REDD that appear to have a relatively high level of consensus in the negotiations, and also have considerable external momentum—through the various multilateral and bilateral initiatives. But it is nevertheless important that mechanisms such as REDD are not detached from the UNFCCC chapeau, at least not yet, if progress on climate change mitigation and adaptation is to be both deep and wide. Efforts should continue to be made to get REDD working within the UNFCCC. And in the meantime, it is necessary to ensure a degree of harmonization of approaches and guidelines between the different external initiatives to avoid the various risks posed by fragmentation.

If any of these REDD+ initiatives are to succeed in helping to strengthen countries’ climate change efforts in the forest sector and improve the lives of those who depend on forested land, there will need to be both technical innovation and effective governance. Despite the remaining impasses in the UN negotiations, the recent conference in Cancun nevertheless emphasised the importance of both these issues. The ‘Cancun Agreements’ expect countries that want to participate in the mechanism to develop sufficient capacity to monitor greenhouse gas emissions and to track information on how social and environmental ‘safeguards’ are maintained during implementation of REDD+ activities. The Rainforest Foundation US, which has a number of ongoing initiatives in Guyana, Belize and Brazil, cautions that ‘REDD can represent a great opportunity for indigenous peoples. Depending on how these initiatives are carried out, however, they also risk establishing perverse incentives and top-down models for forest protection, leading to land conflicts and unfair distribution of benefits.’

Many countries also face challenges in developing the necessary capacity for monitoring forest sector greenhouse gases. Though recent years have seen several technical advances in this field, the benefits will be limited if the tools—and the knowledge needed to use them—are not accessible to all relevant countries. Several initiatives are underway to help countries improve their capacity, and Brazil continues to show strong leadership by sharing the substantial knowledge it has acquired in forest monitoring with other countries.

Jospeh Burke, London



Radiation detection developments at LLNL

At the Lawrence Livermore National Laboratory (LLNL) in California, new materials being developed to help detect and identify radiological materials will allow for cheaper, more portable, and more accurate devices, the journal *Innovation* has reported.

Current technology can be limiting for inspectors. Plutonium and highly enriched uranium are identified via invisible gamma, thermal neutron, and fast neutron radiation emissions. In each of these cases, problems abound due a lack of necessary instrument components and difficulties in using the instruments themselves. Germanium detectors are well adapted to the detection of gamma rays, but to achieve the best results these need to be cooled to below room temperature. To identify thermal neutron particles requires large, vibration-sensitive, helium-filled tubes fed with high voltages. The most reliable method for the detection of fast neutrons uses a crystal called stilbene, which is difficult to grow, expensive, and available from just one company located in the Ukraine.

Today, under the leadership of scientists at LLNL, teams in several US laboratories, universities and private research companies are spearheading efforts to develop equipment better suited to the requirements of nuclear inspectors in the field. The ideal detectors need to be cheap, robust, portable, and able to operate at room temperature—as well as highly accurate.

An alternative to the use of germanium in gamma detection is a method called scintillation in which radiation interacts with certain materials to produce a tell-tale flash of light. The challenge lies in finding the most suitable material for this interaction. Current components for scintillators are expensive and radioactive. Chemist Nerine Cherepy and her team at LLNL have found two viable, non-radioactive alternatives: transparent ceramic gadolinium-based garnets and strontium iodide crystals.

As for neutron detection, the search for a replacement to

the expensive stilbene is being carried out by Livermore physicist Natalia Zaitseva and her team. The current alternatives carry environmental concerns and are known for their flammability and toxicity. The focus is to find a material that would best be able to perform ‘pulse-shape discrimination (PSD)’—picking out neutron signatures from gamma background radiation—without the problems associated with the current alternatives. Whilst the team have not yet settled on one material, a compound has been discovered to exhibit ‘triple PSD’, separating both thermal and fast neutrons from the background gamma. Yet another possibility is that of acoustic neutron detection, where sound waves are measured as a result of the interaction between neutrons with boron and other materials. This promising research continues.

Mikael Shirazi, London

CTBTO conducts two verification exercises

The Comprehensive Test Ban Treaty Organization (CTBTO) has been developing and refining its verification regime with recent exercises in Israel and Jordan. The former concentrated on detecting the low frequency sound waves that emanate from explosions, whilst the latter simulated the inspection of a suspected nuclear test site.

In the Negev desert in Israel, scientists from over 20 countries came together in early 2011 to test how sub-audible infrasound waves travel through the atmosphere following large explosions. A 100-ton bomb was detonated with the intention of tracking these waves as they travelled around the world. As Patrick Grenard, Head of Engineering and Development at the CTBTO, explained: ‘In winter the stratospheric winds blow to the east, and therefore we wanted to monitor in the region how the sound generated by this kind of explosion would propagate.’

The data gathered from the Organization’s measurement stations (including 15 portable units erected for the purposes of the test) will help to calibrate the sensors and computer models currently in development. Of particular

interest is the time it takes for waves to propagate outwards, and the subsequent ability of those responsible for nuclear monitoring to pinpoint the location of the blast. The team in Israel was notified in near real-time that the explosion had been detected by their colleagues across the world, including in Jordan, Greece and Armenia. The waves were in fact detected as far out as Kazakhstan and Mongolia. It took the infrasound waves three hours to travel this 6,500km distance. Tibor Toth, CTBTO Executive Secretary, said that the experiment was a success and praised the ability of the system to distinguish between different types of events: 'We can look into the infrasound signal to figure out whether an explosion is just a chemical explosion in a mine or something which from the point of view of the prohibition of nuclear weapons tests we would have to look into.'

The Jordan exercise was conducted as an examination of inspectors' ability to act in the difficult circumstances of a suspected nuclear test. Under the terms of the CTBT (which is not yet in force), verification personnel will have 130 days to search an area around the size of a mid-sized city for traces of a clandestine nuclear explosion. Scientists with various specialities, from nuclear engineering to geology, were tasked with locating suitable inspection sites interpreting new information coming from the CTBTO headquarters in Vienna, and maintaining communication with all necessary parties. Ashraf Abushady, the team leader for communications on the operation, said it was necessary at any given time to 'be able to know where every inspector is, where every vehicle is, and we need to know what exactly they're doing in the field.'

Mikael Shirazi, London

Verification Quotes

'I know this conference has always cherished the principle of consensus, which ensures that every state can defend its national interests at the negotiating table. But our patience is not infinite. There is no justification for a single nation to abuse the consensus principle and forever thwart the legitimate desire of the 64 other states to get negotiations underway on an agreement that would strengthen our common security.'

Hillary Clinton makes clear her government's frustration with the lack of FMCT progress at the Conference on Disarmament in Geneva.

'I have no doubt that this crisis will be effectively overcome. Nature can be cruel. But human beings are brave, resourceful and resilient.'

IAEA Director General Yukiya Amano on the Japanese nuclear crisis following the devastating earthquake and tsunami.

'Our message is very clear, we will continue our cooperation with the IAEA in accordance with comprehensive safeguards and we will continue our enrichment activities under the IAEA without any interruption, neither the sanctions nor resolutions, nor the threat of attack, nothing could stop this enrichment, which are exclusively for peaceful purposes.'

Iranian envoy to the IAEA, Ali Asghar Soltanieh, speaking earlier this month.

'The Cancun agreements have given new life to the UN-REDD Programme so that the programme can give new life to the forests of the earth. The outcome of Cancun has demonstrated an international commitment to ensure that REDD+ is well coordinated, transparent and fully inclusive at all levels, including indigenous peoples for whom forests are their heritage and home.'

Christina Figueres, Executive Secretary, UNFCCC, on the Cancun climate conference.

Arms Control and Disarmament Programme

Over the last three months, the VERTIC Arms Control & Disarmament Programme has been heavily engaged in drafting the forthcoming report on the irreversibility of nuclear disarmament.

In February, VERTIC's Executive Director, Andreas Persbo, and Research Assistant David Cliff travelled to Glion, Switzerland, to present the draft irreversibility report to a panel of expert reviewers. Both delivered presentations at the review meeting: Mr Cliff addressed the principal findings of our report and the rationale behind its methodology while Mr Persbo talked about the recommendations arising from our research and possible future trends. The meeting went well and the report is now in an advanced stage of completion. Its release is to come later this year.

In other ACD news, in March 2011 Senior Researcher Larry MacFaul travelled to Islamabad, Pakistan, to deliver a presentation on 'Verification Options for an FM(C)T' at a conference run by the South Asian Strategic Stability Institute (SASSI). This conference—under the banner 'Fissile Material Treaty: Possibility and Prospects'—was attended by a host of diplomatic and political figures (including the Pakistani interior minister) as well as by figures from the media and the nuclear non-proliferation/disarmament field.

Mr MacFaul's presentation assessed the relative merits of a 'focused' approach to FM(C)T verification—that is, verification of only enrichment and reprocessing activities—versus more extensive verification encompassing the entirety of a country's nuclear fuel cycle.

Most recently, Andreas Persbo travelled across to the United States to speak on the Comprehensive Nuclear-Test-Ban Treaty (CTBT) at the Carnegie International Nuclear Policy Conference in Washington, DC.

Mr Persbo's address stressed the extent to which the International Monitoring System for the CTBT is already exceed-

ing expectations—despite still not being fully operational—and the need to bring the treaty into force as soon as possible if the Preparatory Commission for the CTBT is not to 'lose its relevance.'

Both Mr MacFaul's presentation to the SASSI-run conference and Mr Persbo's remarks to the Carnegie International Nuclear Policy Conference can be found, in full, on the VERTIC website.

National Implementation Measures Programme

In the first quarter of the year, the NIM team completed three legislative surveys and conducted one legislative drafting session which included an awareness-raising workshop on BWC implementation for key national stakeholders.

In February, the NIM team published VERTIC Brief No. 14: 'Chemical and biological weapons use in the Rome Statute: a case for change'. In this paper, it is argued that the Rome Statute, which establishes the International Criminal Court in The Hague, should be amended to explicitly include chemical and biological weapons use as war crimes in international and domestic armed conflicts. The brief can be downloaded from the VERTIC website.

Closely related to this paper was the 'Ensuring Suppression of Chemical/Biological Weapons: Criminalization and Beyond' symposium, held by the Harvard Sussex Program on 11 February 2011 and attended by the NIM team.

NIM staff spoke on chemical and biological weapons issues at the 'Nuclear Challenges in Southeast Asia: Promoting Cooperation and Consensus' conference in Christchurch, New Zealand, during 16-17 February. The team also presented at the '13th Meeting of the Council for Security Cooperation in the Asia Pacific (CSCAP) Study Group on Countering the Proliferation of Weapons of Mass Destruction in the Asia Pacific' in Las Vegas, United States, 20-22 February.

Environment Programme

Over this period, the Environment Programme focused on the UN climate change negotiations. Research was carried out on progress in international and national initiatives to reduce emissions from deforestation. The programme also worked on charting countries' negotiating positions on procedures for 'Measurement, Reporting and Verification' (MRV) in future climate action.

VERTIC also examined new frameworks for MRV of climate finance. To support this work, Joseph Burke attended a seminar hosted by the Overseas Development Institute 'After 2015: new challenges in development–climate finance', London, 24 March 2011. In addition, the programme investigated emerging issues on the relationship between international trade policies and the climate change regime.



Recent releases

Larry MacFaul, 'Verification Options for an FM(C)T'

Presentation delivered to the 'Fissile Material Treaty: Possibilities and Prospects' conference, Islamabad, Pakistan, March 2011

Andreas Persbo, 'Bringing the Test Ban Treaty into Law'

Presentation delivered to the Carnegie International Nuclear Policy Conference, Washington, DC, USA, March 2011

VERTIC Brief no 14: 'Chemical and biological weapons use in the Rome statute: a case for change'

By Kara Allan with Scott Spence and Rocio Escauriaza-Leal, February 2011

Grants and Administration

In this quarter, VERTIC focused on project delivery and the implementation of existing grants. In addition, the Swedish Ministry of Foreign Affairs approved a contribution to VERTIC's Wilton Park conference which will be held in June 2011 to celebrate VERTIC's 25th Anniversary.

VERTIC held its Annual General Meeting (AGM) on 21 February 2011. All existing trustees were re-appointed under our current Articles of Association.

Joseph Burke and Mikael Shirazi are currently providing assistance to VERTIC through our internship programme. Joseph is primarily assisting with work on the Environment Programme while Mikael is focusing on arms control and disarmament. Agata Slota completed a successful internship with VERTIC in February. Agata was an outstanding intern and we are grateful for all her hard work. We would like to thank Rammee Mossa for his hard work as an intern also.

building trust through verification

VERTIC is an independent, not-for-profit non-governmental organization. Our mission is to support the development, implementation and effectiveness of international agreements and related regional and national initiatives. We focus on agreements and initiatives in the areas of arms control, disarmament and the environment, with particular attention to issues of monitoring, review and verification. We conduct research and analysis and provide expert advice and information to governments and other stakeholders. We also provide support through capacity building, training, legislative assistance and cooperation.

PERSONNEL Andreas Persbo, *Executive Director*; Angela Woodward, *Programme Director*; Larry MacFaul, *Senior Researcher*; Scott Spence, *Senior Legal Officer*; Hassan Elbahtimy, *Researcher*; Rocío Escauriaza Leal, *Legal Officer*; Yasemin Balci, *Programme Assistant*; David Cliff, *Research Assistant*; Unini Tobun, *Administrator*; Sonia Drobysz, *Volunteer (November 2010-October 2011)*; Joseph Burke, *Intern (January 2011-ongoing)*; Mikael Shirazi, *Intern (March 2011-ongoing)*

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