

Foreword	2
Introduction	3
Climate change	3
Responses to climate change	5
Offsetting carbon emissions	5
Offsetting schemes for air travel	6
Carbon taxes.....	6
How IVCOs and other organisations are responding to climate change	6
Awareness raising, advocacy and coalitions.....	7
Programmes on environmental sustainability	7
Travel	8
Office-based environmental committees and environmental policy managers	9
Challenges and recommendation for IVCOs	11
Reducing reliance on air travel.....	11
Mitigation and adaptation approaches	12
IVCO-managed carbon offsetting schemes	12
Converging Worlds	13
Conclusion	14

Foreword

This is the third in a series of discussion papers produced by FORUM, which follows on from our research work on trends in International volunteering and co-operation in recent years. One of the key trends identified in this time has been how climate change affects us as International Volunteer and Co-operation Organisations (IVCOs).

This paper aims to consider some of the implications of climate change, what we can learn from this and identify some challenges for the future.

The views expressed in this paper are not necessarily those of FORUM or its members or of the organisations for whom the author works. The responsibility for these views rests with the author alone.



Cliff Allum, President of FORUM

About FORUM

International FORUM on Development Service is a network of organisations engaged in international volunteering and personnel exchange. FORUM aims to share information, develop best practice and enhance co-operation between its members.

FORUM's members include both non-governmental (NGO) and state organisations from around the world.

The main activities of FORUM include the following:

- We facilitate the sharing of information, through our website, news updates, sharing of knowledge and experiences.
- We commission and undertake research, as well as facilitating members' involvement in research into issues around international volunteering.
- We organise an annual conference for heads of agencies known as IVCO. This conference is primarily concerned with issues of change, redefining international volunteering and offering opportunities to learn about new models of activity.

Introduction

This discussion paper provides an overview of the implications of climate change on development organisations, in particular organisations concerned with international volunteering (International Volunteer Co-operation Organisations [IVCOs]). Australian Volunteers International has authored this paper with assistance from FORUM members.

The phenomenon of climate change has received much recent international attention. Numerous international conventions and conferences have been held on the subject and news headlines frequently cite climate change or global warming as the cause of extreme weather such as flooding or droughts.

Climate change is of crucial concern to international development and poverty reduction. The seventh UN Millennium Development Goal (MDG) is 'ensure environmental sustainability': managing climate change is integral to achieving this goal. Any organisation that addresses poverty must also engage with the issue of climate change since climate change is predicted to exacerbate many of the processes that compound poverty.

Members of FORUM were surveyed about their responses to climate change processes and the challenges that they anticipate climate change will present to the volunteer co-operation sector. In order to broaden the discussion, the survey also collected the experiences of related organisations. Consideration of how development NGOs, travel companies, ecotourism and 'voluntourism' organisations are responding to climate change provides a useful comparison to IVCOs. Development NGOs share with IVCOs the process of developing and implementing programs to achieve sustainable development. Ecotourism and voluntourism companies share the experience of sending volunteers on international assignments.

The information presented here is sourced from interviews, survey responses and web-based research. Key topics related to climate change are discussed before considering how IVCOs and related organisations are responding to climate change. Finally, future challenges and recommendations are addressed.

Climate change

There are a number of naturally present greenhouse gases in the atmosphere including carbon dioxide, methane and water vapour. By delaying the loss of heat from the Earth and trapping it in the atmosphere, these gases create the greenhouse effect.

The combustion of fossil fuels releases vast amounts of carbon dioxide into the atmosphere; therefore human activity is responsible for an enhanced greenhouse effect. Fifty per cent of this enhanced greenhouse effect is attributed to carbon dioxide emissions.

The Intergovernmental Panel on Climate Change (IPCC) predicts that by 2100 the Earth's average surface temperature is likely to increase by approximately 2 to 4°C (best case scenario); because current climate change is a net increase in temperature, the term 'global warming' is used interchangeably with climate change. Climate change is already identified as the cause of increasingly frequent severe weather events (including storms and droughts) and sea level rise. In the period between 1993 and 2003 sea levels rose by over three millimetres a year. Due to a lag effect, global temperatures will continue to increase over the next few years regardless of any mitigation action. Taking into account this inevitable warming, there is a widely supported campaign to make sure that temperature is curbed at a 2°C increase on the current average (Roach, 2007, and others).

Climate change has received much recent media attention, largely due to the development of carbon offset schemes and awareness events (a recent example is the international Live Earth concert in July 2007). Al Gore's highly successful film *An Inconvenient Truth*, released mid 2006, established climate change as a mainstream media issue. However, the evolution of the study of climate change and international co-operation to address the impacts of global warming has a much longer history. The IPCC was established in 1988, the Rio Earth Summit was held in 1992 and the Kyoto Protocol (an addition to the 1994 United Nations Framework Convention on Climate Change) was adopted in 1997. The Fourth Assessment Report of the IPCC, which is almost finalised, builds on the scientific research presented in the Third Assessment Report. These are only a few examples of the key events that have shaped the current approach to climate change.

Although there are many disagreements regarding causes and effects and trajectories of climate change, there is a broad consensus that anthropogenic activities have accelerated climate change and that the impacts of climate change will have far-reaching consequences of a great magnitude.

Climate change is also a development issue. Developing countries are likely to be most affected because they lack the institutional and economic capacity to cope with its multiple impacts (Institute of Development Studies, 2006). Extreme weather events will result in localised drought and flooding, which impacts upon agriculture and makes communities more vulnerable to famine. Human health is likely to be affected in other ways too: vector-borne disease is predicted to spread as conditions become warmer and wetter, and environmental refugees are forecasted to increase as coastal areas are more regularly inundated by storm surges (Simms et al 2004). Global warming is therefore likely to constrain development and potentially reverse progress (ibid).

Responses to climate change

Given the general scientific consensus that climate change will have a severe detrimental impact on people and ecosystems, there are two main courses of action: mitigation and adaptation. Mitigation, slowing the rate of global warming by reducing greenhouse gas emissions, is the main approach of the Kyoto Protocol. Adaptation is challenging because although it is easy to identify areas at risk of the adverse effects of climate change (for example, low-lying coastal areas), it is harder to predict the magnitude of those effects. Agriculture, forestry and water resources are all systems that will be affected by climate change and adaptive measures will be required since humans rely on those systems.

Both mitigation and adaptation pose questions of equity between 'developed' and 'developing' countries since developing countries lack the technological and financial resources to either sustainably reduce their greenhouse emissions or to manage the predicted effects of climate change. Therefore, responding to climate change is an issue at the heart of development because it addresses the "historical injustice about rich countries' ecological debts" (Simms et al, 2004: 14).

Offsetting carbon emissions

Carbon offsetting schemes have gained popularity in recent years. These are voluntary schemes whereby an organisation or individual's financial contribution is used to invest in a carbon-offsetting project, which removes carbon from the atmosphere. Tree-planting is the most well-known method of offsetting carbon emissions, although renewable energy projects are increasingly utilised for offset purposes.

Numerous companies and not-for-profit organisations exist to assist clients to offset carbon emissions or become carbon neutral; these include The Carbon Neutral Company (formerly Future Forests) and carbonfund.org. There are also organisations that exist as watchdogs, such as carbontradewatch.org.

Commercial entities have approached carbon offsetting as a method of fulfilling corporate social responsibility. Companies such as HSBC, BSKyB, Honda, DHL and Mazda have all made announcements that their business (or significant sections thereof) have become or are becoming carbon neutral. Likewise, voluntary carbon-offset schemes provide a platform for international NGOs and not-for-profits to demonstrate their commitment to sustainability principles, to show that they are 'walking their talk' (Taiyab, 2005).

There is potential to use the outputs of carbon offset projects as an aspect of development projects. International volunteer-sending organisations can effectively 'cut out the middle man' (the carbon offset organisation) by directly setting up or working with such projects.

The common criticism of offsetting schemes, however, is that they are merely a way to pay lip-service to environmental sustainability. They allow people to pursue unsustainable activities, neutralising the negative impacts rather than reducing energy consumption and taking responsibility for carbon emissions associated with energy use.

Taiyab (2005) found that people and groups involved in voluntary carbon offsetting had two main concerns about these schemes: the credibility of offsets and accessing reliable information. Clearly, any organisation wanting to offset carbon emissions needs to be confident in its choice of scheme. This requires careful research and consultation.

Offsetting schemes for air travel

Because aeroplanes release carbon dioxide, nitrogen and sulphur compounds and water vapour directly into the atmosphere, the impact of air transportation received particular attention from the IPCC in its 1999 report *Special Report on Aviation and the Global Atmosphere*. Airline companies such as British Airways and Virgin Blue, themselves concerned about the implications of a changing energy market, now offer customers the option to offset the emissions of their flights. Voluntary offset websites offer online calculators so individuals can look up the amount of carbon produced by their travel and then offset that carbon by contributing towards various projects.

Carbon taxes

Carbon taxing is a 'polluter pays' approach. By placing taxes on carbon, the price of fuel reflects its environmental costs. Carbon taxes provide incentives to produce cheaper alternatives to fuel, and thereby improve the efficacy of energy use. In addition, carbon taxing would generate money that could be used for adaptation purposes. Since climate change will have disproportionately adverse effects in developing countries, funds from carbon taxing in developed countries could be used to address this inequality.

Case Study: Intrepid Travel

Intrepid Travel, an Australian-based company, specialises in responsible travel experiences. The company has two full-time positions with a climate change and environmental focus: Carbon Offset Manager and Responsible Travel Manager. The latter role has existed for approximately six years and the former role for approximately one year. In 2006 Intrepid Travel won two awards, including best overall, at the Responsible Travel Awards. Intrepid has incorporated offset costing into the price of all flights. The company aims to go carbon neutral by 2009 following an extensive carbon audit. The biggest challenge is assisting their overseas offices to also go carbon neutral.

Australian Volunteers International has partnered with Intrepid on a teacher-training project in Malaysia that reflects the companies' ethos of responsible travel that supports local communities. There is potential for similar partnerships between IVCOs and responsible travel agencies to address specific issues of climate change.

How IVCOs and other organisations are responding to climate change

Awareness raising, advocacy and coalitions

Many development organisations and IVCOs have combined to produce papers such as *Up in Smoke: Latin America* collaboration between the International Institute for Environment and Development and development agencies, including Progressio). These organisations contribute either by funding research or collaborative authorship. *Two Degrees, One Chance* is a paper produced by Tearfund in conjunction with Oxfam, Practical Action, Christian Aid and endorsed by a further 20 NGOs.

Online groups like Stop Climate Chaos (www.stopclimatechaos.org) consist of social activist and development NGOs. Stop Climate Chaos raises climate change awareness and aims to lobby the UK Government to address both mitigation and adaptation issues through the 'icount' campaign. Skillshare International united with 10 other NGOs to write to Tony Blair urging the then British prime minister to ensure that the G8 would prioritise the post-2012 framework that is part of the Kyoto Protocol. An important future role of IVCOs, as identified by organisations such as Unité and DED, is to strengthen the civil society pressure groups that raise awareness of environmental justice.

To promote how people in developed countries can change their lifestyles to support a more sustainable way of living, Progressio has launched its own environmental awareness website, ecomatters (www.progressio.org.uk/ecomatters). Ecomatters and the 'livesimply' campaign that Progressio supports provide advice on how people can make small adjustments to reduce individual energy consumption.

Although not a volunteer-sending organisation, ActionAid enables volunteers to participate in 'charity challenges' (exposure trips that involve participants raising money to take part). ActionAid showcased a Bangladeshi house adapted for the impacts of climate change at the recent Glastonbury music festival to educate children. The program encourages school-aged children to think about their own environmental impacts at home and in the classroom (www.actionaid.org.uk). ActionAid was one of the signatories on the letter to Tony Blair mentioned above.

Programs on environmental sustainability

The main ways in which IVCOs respond to issues of environmental sustainability are through the projects to which they assign development workers. Environmental sustainability is an entrenched element of sustainable development; therefore IVCOs that approach development comprehensively are innately addressing the environment in their programs. Climate change is inherently linked to sustainable development because it is the sustainability of development that is compromised by adverse impacts of climate change.

Many projects for which IVCOs recruit development workers have an environmental focus; for example Volunteer Service Abroad deploys volunteers to work on pollution

control and waste management in Kiribati and United Nations Volunteers work on sustainable natural resource management in Cape Verde. Renewable energy projects are particular examples of programs with a direct climate change link (for example, Skillshare International and AVI work with the Renewable Energy Association of Swaziland).

Case Study: Australian Volunteers International (AVI)

Environmental sustainability is one of the cross-cutting themes that underpin AVI's approach to development. Volunteers have been placed on a number of projects relating to this theme in general.

Climate change

AVI recently placed a climate change officer within the Ministry of Natural Resources and Environment in Samoa. The volunteer helped to prepare a national greenhouse gas inventory, provide training on vulnerability and adaptation assessments, build an analysis of various adaptation options, assess mitigation options and prepare the ministry to monitor and report on greenhouse gas emissions.

Environmental education and waste management

AVI has partnered with Live and Learn, an environmental education NGO with offices in Australia as well as across the Pacific. Through the partnership they deliver a community-based waste-management campaign and provide education in Solomon Islands.

In Sukunan, Indonesia, local and AVI volunteers worked together as environmental educators on a waste management project. Volunteers helped to facilitate community 'reuse, reduce, recycle' campaigns. The success of the original recycling project resulted in AVI recruiting a permaculture expert to take up an assignment in Sukunan.

Office-based activities

AVI has a growing 'green team' initiated by staff early in 2007. The green team has embarked on a number of activities within the head office including an energy awareness campaign, setting up bokashi buckets (to compost food waste), celebrating Earth Day as an awareness exercise and commissioning a recent energy audit of the buildings.

Travel

All IVCOs that provided information for this paper acknowledged that usually there was no alternative to air travel for development workers travelling to their positions. DED is

about to set up a carbon offset scheme for flights. UNV encourages the use of trains for staff travelling within Europe.

The responsible travel industry considers the impact of travel more so than IVCOs. i-to-i provides short-term volunteer opportunities and 'meaningful tours' and suggests that customers use the British Government accredited DEFRA carbon calculator to offset the carbon emissions of flights and holidays. i-to-i suggests that customers concerned about the environmental footprint of their trips should consider contributing to the environment in other ways through ecological volunteering. However, i-to-i is actively working with Leeds University to develop its own carbon offset scheme.

Office-based environmental committees and environmental policy managers

Internal groups responsible for providing guidance on reducing energy consumption are an increasingly common feature of many organisations. Usually referred to as a 'green team' or 'green group', these groups are often established by a group of employees who are particularly interested in environmental sustainability. Green teams may be voluntary committees that meet during staff lunch times or may constitute part of employees' work. Oxfam and World Vision Australia have both created positions with an environmental/climate change focus. Interestingly, these roles emerged from green team committees.

Internal environmental committees are able to promote more environmentally-sustainable practices around the workplace (even as basic as turning off lights) as well as promote energy and carbon audits as a staff awareness tool for reducing the environmental footprint of the office.

Case study: Engineers Without Borders Australia (EWB)

Environmental sustainability as a general issue is listed in EWB's charter document. Volunteer programs that specifically address environmental issues include water conservation in the Maldives and a renewable energy project in Nepal.

Climate change is one of EWB's two major campaigns: "The main focus of our climate change campaign is on the impacts of climate change on developing communities, how we can assist them to adapt and to develop without reliance on greenhouse polluting technologies, and how we can act to minimise impacts by mitigating Australia's emissions."

EWB established a climate change working group to investigate all the organisation's activities with respect to carbon emissions. A volunteer has been working one day a week to calculate EWB's greenhouse gas emissions and research carbon offsetting. One of the organisation's 2007 goals is to become carbon neutral.

EWB is exploring the development of Technical Assistance Networks (TANs) as a method of sharing technical expertise in partner communities without the need to travel

to those communities. At present TANs are being used in very specific projects but may be expanded depending on their success.

Practical ways to address climate change for IVCOs are numerous and vary tremendously in scope. Considering the activities of IVCOs, it is clear that actions fall into two main categories: programmatic and internal or office-based. IVCO environmental policies and practices vary from formal, structured policies through to informal committees. Furthermore the environmental policies of an organisation may emanate from high-level codes such as the MDGs or may be the initiatives of motivated staff.

IVCOs and development NGOs in general have been involved in a wide range of mitigation and adaptation approaches. Some of these activities have not yet been implemented by the IVCOs that identified them, but are still being discussed within the sector.

Programmatic:

- Ensuring environmental sustainability is a cross-cutting theme
- Pursuing programs with a climate change focus
- Pursuing programs related to adaptation (eg, disaster preparedness)
- Pursuing programs related to mitigation (eg, renewable energy schemes)
- Facilitating awareness raising of climate change and advocacy work in partner countries
- Encouraging volunteers to offset their flights with an accredited organisation

Country-based/office-based:

- Energy audit of offices
- Sourcing stationery from sustainable suppliers
- Outsourced recycling (paper collection, etc)
- Internal recycling (composting, etc)
- Use of sustainable building materials
- Resource-efficient buildings (eg, sensor-activated lights, collection of rainwater, design to cool naturally)
- Changing to energy-efficient light bulbs
- Encouraging staff to use public transport and providing facilities for staff to ride bicycles to work
- Establishing an environmental committee/green team
- Reducing staff air travel by using teleconferences instead of face-to-face meetings where appropriate
- Purchasing energy from renewable sources
- Working towards going carbon-neutral
- Offsetting staff flights
- Careful selection of accredited offset schemes
- Advocacy and awareness raising of climate change and environmental justice issues amongst 'home' communities (in conjunction with other organisations)

Case study: United Nations Volunteers (UNV)

UNV has undertaken programs with a specific environmental focus, including trans-boundary environmental management of the Mekong River Basin and a disaster preparedness and recovery project in countries affected by the 2004 Boxing Day tsunami. The organisation's involvement with environmentally-focused volunteering began in 1991 with the Eco-Volunteer program; activities included soil and water conservation and reforestation.

UNV recently signed a memorandum of understanding with the Global Environment Facility - Small Grant Programme (GEF/SGP). UNV will recruit qualified national, international, online and possibly private-sector volunteers to support GEF/SGP project partners at country and local levels. "One of the added values of this partnership is to ...enhance volunteers' long-term engagement in environmental management beyond project implementation. This will include strengthened local and national volunteer infrastructures through networking, access to environmental information and enhancing planning and management capacities."

The UNV staff green team was established in 2007. Its main activities include rationalising the use of resources (double-page printing, conserving the use of water boilers), recycling and sending awareness-raising messages to other staff.

Challenges and recommendations for IVCOs

Climate change is predicted to dramatically change weather patterns and the ecosystems that support human society. Therefore, the adverse effects of climate change will severely affect the partner communities where IVCOs work.

All IVCOs consulted for this paper identified climate change as a significant challenge to development work. Furthermore, IVCOs are also likely to be affected in developed country headquarters, albeit less directly. For example, the introduction of carbon taxes would have a significant impact on the cost of volunteers travelling to their assignments.

Reducing reliance on air travel

In general, international volunteering is reliant on air travel which produces large amounts of greenhouse gases. Examining alternatives to sending volunteers abroad or significantly changing the flow of volunteers is something that would fundamentally change the business of IVCOs.

Engineers Without Borders Australia was the only organisation surveyed which identified an alternative strategy to sending volunteers overseas to take up development work

(their Technical Assistance Networks enable expertise to be shared without the need for travel).

IVCOs could consider scaling back travel by expanding virtual volunteering or expanding south-south volunteering between countries in close proximity. JICA is active in south-south co-operation support through such projects as Chilean aquaculture experts working in Cuba. Oxfam does not send volunteers to other countries, but maintains an active local volunteer base in its offices and retail outlets. Clearly it is not possible to directly compare Oxfam to IVCOs, but Oxfam's volunteer base may demonstrate the policy and advocacy roles that volunteers can fill without leaving the country. IVCOs could also explore the idea of specialising in geographic areas close to their country of origin, for example Japanese IVCOs focusing on south-east Asian countries.

Mitigation and adaptation approaches

IVCOs should by the nature of their work incorporate both mitigation and adaptation approaches into their activities. The vulnerability of many developing countries to the impacts of global warming will require adaptation activities to become part of many volunteer programs.

Concurrently, IVCOs need to assess their activities in their countries of origin to address mitigation issues. IVCOs may play important roles in advocacy in both countries of origin and countries of work.

Although there is now scientific consensus on the implications of global warming, there are still many unknowns, including the magnitude of effects. Therefore responding to and anticipating the effects of global warming can be challenging. As the IPCC and other bodies refine and publish research some of these unknowns will become clear. It should also be noted that IVCOs working with marginalised communities are in the position to understand first-hand some of the real, experienced effects of climate change.

IVCO-managed carbon offsetting schemes

Criticisms of carbon offsetting such as 'offsetting guilt', 'offsetting responsibility' or 'selling peace of mind' have joined the more well-known 'greenwash' description (see www.carbontradewatch.org). Tree plantation carbon sinks in particular have received criticism of being inappropriate projects. IVCOs have the potential to help address some of the problems with carbon offsetting schemes by identifying sustainable programs in partner communities.

There is also the potential for IVCOs to run a combined carbon offsetting fund. The money raised from contributions to this fund would contribute to renewable energy or adaptation projects in developing countries. This would enable IVCOs and their sponsor organisations to address carbon offsetting in a meaningful and sustainable manner.

Converging worlds

IVCOs are able to intimately understand the challenges that climate change poses to poor and vulnerable communities. International volunteers are often called upon to work in development roles that focus on environmental issues. Furthermore, the majority of volunteers who live and work in developing communities can see first-hand the vulnerability to climate change.

IVCOs cannot separate the development work that they carry out in developing countries to their activities in their country of origin (generally in the developed world). Although it is said that we live in an increasingly globalised world, the phenomenon of climate change will have very different impacts on different communities across the globe. Yet globalisation means that it will become harder for affluent countries to ignore their vulnerable neighbours (eg, the need to absorb environmental refugees from low-lying island nations inundated by water).

IVCOs interact directly with a wide range of organisations and community groups and have the opportunities to share current knowledge on climate change. Faith-based organisations are often able to use their international networks; for example, the Uniting Church of Australia directly partners with church communities in the Pacific to raise awareness of the relationship between rising sea levels and climate change.

IVCOs engaged in international development seek to address the inequalities of development. The current global economy and the affluence of the minority world is a result of energy-intensive practices. IVCOs' climate-change-related activities in developing countries can play a part in addressing this development issue.

Conclusion

Clearly IVCOs are engaging with the issue of climate change but to varying degrees. Either a significant proportion of IVCO programs have an environmental focus, or environmental sustainability is a cross-cutting theme of all programs. Some programs focus specifically on climate change issues; however the interrelationship of environmental systems means that most environmentally-sustainable projects will have some impact upon mitigation of, or adaptation to, climate change.

IVCOs undertake international development work and as such they are in positions to observe and respond to the effects of global warming in partnerships with local communities. This, however, is only one element of action. IVCOs should also consider and react to the climate change impacts of their own travel and office-based activities. One way to do this would be a shared fund to support carbon offsetting schemes. IVCOs and their country-of-origin partners or sponsors could contribute regularly to this fund, which would support mitigation or adaptation projects run by their in-country partner organisations.

Finally, IVCOs participate in two-way exchanges of knowledge sharing and relationship building; therefore they are in the positions to contribute substantially to advocacy in their countries of origin as well as the countries in which they operate.

With thanks to:

- Oxfam Australia
- World Vision Australia
- Intrepid Travel
- Canadian International Development Agency
- DED
- Australian Volunteers International
- Engineers Without Borders Australia
- Unité
- United Nations Volunteers
- Progressio
- Conservation Volunteers Australia

References:

- **Leuenberger, M.** (2006) *A Global Carbon Levy for Climate Change Adaptation*, iied Sustainable Development Opinion Series.
- **Taiyab, N.** (2005) *The Market for Voluntary Carbon Offsets: A new Tool for Sustainable Development?* iied Gatekeeper Series 121
- **Roach, R.** (2007) *Two Degrees One Chance*, http://www.tearfund.org/webdocs/website/Campaigning/Policy%20and%20research/Two_degrees_One_chance_final.pdf accessed 30.06.07
- **Simms, A. Magrath, J. and Reid, H.** (2004) *Up in Smoke: Threats from, and responses to, the impact of global warming on human development*, The Working Group on Climate Change and Development
- **Sterrett, C.** (2007) *Where has all the water gone? Understanding climate change from a community perspective*, Oxfam Australia.
- **The Climate Change and Development Roundtable, Australia Responds: Helping Our Neighbours Fight Climate Change**, http://www.acfonline.org.au/uploads/res_1104-04_Australiaresponds_24.pdf accessed 05.06.07
- **UNFCCC Feeling the Heat**, http://unfccc.int/essential_background/feeling_the_heat/items/2918.php accessed 02.07.07
- **UNFCCC (2005) Depledge and Lamb (eds) Caring for Climate A guide to the Climate Change Convention and the Kyoto Protocol** http://unfccc.int/resource/docs/publications/caring2005_en.pdf accessed 18.07.07