THE COPENHAGEN CHALLENGE: PROSPECTS FOR SUCCESSFUL CLIMATE NEGOTIATIONS

FEATURED:

Lifetime Leveraging: Reconciling the Responsibilities of Developed and Developing Nations

Red Alert: The Impact of Climate Change on Northwest Coast Tribal Fisheries

WITH SPOTLIGHT ANALYSIS ON:

ECUADOR • INDIA • AMCEN
SOUTH AFRICA • ETHIOPIA • UGANDA
CHINA • RUSSIA • ASEAN
Negotiations set this December in Copenhagen have a tall order to fill. Mounting evidence shows that emissions from human activity are producing metastatic climate change and altering Arctic reflectivity, thereby accelerating warming and permafrost thawing that speeds methane release, in turn increasing greenhouse gas concentrations in a positive feedback loop. Still, there are glimmerings of hope.

The US, which has produced nearly a third of humanity’s emissions over the past century, may soon act decisively. Although the Waxman-Markey legislation narrowly emerged from the House, laden with trade sanction provisions and pork to persuade wavering industrial state Democrats, there is a chance that much more effective legislation could materialize from the Senate despite or perhaps because of its de facto 60 vote threshold. Ideally the Senate will retain the ambitious goals of the Waxman-Markey cap and trade bill — a 42% reduction below 2005 levels by 2030 and an 83% reduction by 2050 - but will achieve much of this by removing costly barriers to energy recycling and local generation.

Breaking the impasse in international negotiations will require a creative use of win-win strategies by countries in the Global North and South alike. Though China’s growing emissions have been used in Congress to argue against US action, rapid change is underway in China’s energy sector. In just over a year, the breakneck pace of new coal plant installation has slowed from two a week to under one a week. This year China, whose wind capacity has doubled in each of the past four years, seems likely to exceed the US in new wind plants.

China’s top scientists have long recognized that climate change could imperil coastal areas, increase typhoon risk and threaten food production - a fact underscored in the Beijing International Symposium on Climate Change Impacts organized by the Chinese Academy of Sciences and the Climate Institute in the summer of 1991. Since this Symposium China has emerged as an economic superpower with greatly improved living standards. Yet this remarkable development has caused urban air pollution to worsen, giving China the dubious distinction of having 16 of the world’s 20 most air polluted cities. Adding to the health burden are lethal and pervasive indoor air pollution levels in many rural homes and urban dwellings, where coal and biomass stoves are inflicting a heavy toll.

Barring a dramatic shift in air pollution and smoking habits, one health projection shows China experiencing 83 million deaths from lung cancer over the next 25 years. With a fifth of the world’s people and only about 5% of the world’s fresh water China is already severely water stressed. Construction of coal-fired plants to meet soaring electricity demand increases these pressures. Mao Yushi notes that washing one ton of coal requires 4 to 5 cubic feet of water and that of the 96 major state-owned coal mines, 70 % face water shortages. These considerations and a desire to establish global leadership in wind, solar and carbon capture and storage at new fossil using facilities may be producing a sea change in Chinese policy.

The Lifetime Leveraging approach advanced by Michael MacCracken and Frances Moore advocates slashing black carbon, which could yield large, affordable near-term reductions in radiative forcing, allow China, India and Pakistan to reduce human health risks of indoor and outdoor air pollution, and slow the melting of glaciers crucial to the region’s water supplies. Lifetime Leveraging with a focus on black carbon might provide inducements for China and other rapidly industrializing nations to agree to reduce their environmental impact, enhance the health of their citizens and safeguard future water supplies.

Meanwhile, encouraging advances in ecosystem valuing could catalyze progressive global action. President Correa’s proposal to forego extensive oil extrac-

Climate Institute | www.climate.org
Lifetime Leveraging: An approach to reconciling the responsibilities of the developed and developing nations for reducing their emissions

Heading into the final stage of international negotiations on a post-Kyoto agreement, it is not yet clear that consensus can be reached. Because global emissions must be reduced sharply to ultimately stabilize the climate, developed countries are calling for the developing countries to join in the commitment to sharply reduce greenhouse gas emissions. Developing countries, on the other hand, presently have much lower per capita emissions and have been rejecting the idea of a cap on their CO₂ emissions. Last year, Dr. Michael MacCracken, the Climate Institute’s Chief Scientist for Climate Change Programs, published a paper in the Journal of the Air and Waste Management Association (MacCracken, 2008) suggesting that the deadlock between developed and developing nations might be broken by having the developed nations push hard on emissions reductions of all species in order to demonstrate that a modern society can prosper without having high greenhouse gas emissions, while the developing nations initially focus on improving energy efficiency and making sharp reductions in short-lived species, especially methane, soot, and the pollutants that contribute to build-up of tropospheric ozone, and only later join in actually reducing their CO₂ emissions.

In Dr. MacCracken’s 2008 publication, the notion was conceptual. Earlier this year, Ms. Frances Moore (formerly an intern with the Climate Institute and now a graduate student at the Yale School of Forestry and Environmental Studies) and Dr. MacCracken published an article in the International Journal of Climate Change Strategies and Management that sought to make the original proposal more quantitative. Their article (Moore and MacCracken, 2009), entitled “Lifetime-leveraging: An approach to achieving international agreement and effective climate protection using mitigation of short-lived greenhouse gases,” suggested a joint approach with differentiated responsibilities, as called for in the original United National Framework Convention on Climate Change.

Human activities have already increased the concentrations of greenhouse gases in the atmosphere enough to, in the absence of the cooling influence of sulfate aerosols, ultimately raise the global average temperature to roughly 2°C over its preindustrial value. Many natural systems such as the Arctic Sea, Antarctic ice shelves, and the Greenland ice sheet have already begun to deteriorate, with the global average temperature increase to date being only about 0.8°C, suggesting that the impacts to critical resource systems from a 2°C warming could well be unacceptable (or ‘dangerous’) to society.

Moore and MacCracken (2009) indicate that to stay below the 2°C warming will require concerted action by both developed and developing nations, which they instead subdivide into high, middle, and low-income nations. For high-income nations, roughly an 80% reduction in all greenhouse gas emissions is required by 2050, followed by further cutbacks over the rest of the century. But, this will not be enough, because, even if the high-income nations can accomplish this, even modest emissions growth scenarios in the middle (nations with GDP between $3000 and $10000 per capita) and low (GDP <$3000 per capita) income nations will cause global emissions, and thus the increase in atmospheric concentrations of greenhouse gases and in global average temperature, to exceed unacceptable levels.

To limit global warming to below about 2°C, the Lifetime Leveraging approach proposes that, in addition to increasing the efficiency of their use of fossil fuels, the middle and low income nations also focus their initial efforts on reducing emissions of the short-lived pollutants (i.e., methane and soot) because of both their importance and the fact that emissions reductions can quickly reduce the atmospheric concentrations of these gases to below current levels. Specifically, middle-income nations would, instead of agreeing to a cap on their CO₂ emissions, set sectoral intensity targets for fossil fuel use for multiple energy-intensive industrial sectors. In addition, to help offset their increasing in CO₂ emissions, they would commit to sharply reducing their emissions of methane (CH₄), soot, and the pollutants that contribute to the formation of tropospheric ozone. Requirements for low-income nations would be the least restrictive, requiring them only to pursue targets consistent with their UN-agreed upon Millennium Development Goals, to which they have already agreed and which would promote the health and well-being of their citizens (SEG, 2007). For both middle- and low-income nations, as their per capita GDP rose to the next higher category, they would ‘graduate’ into stricter emission-reduction regimes, so eventually the system would move toward equal obligations and equal per capita emissions.

The Lifetime Leveraging approach assumes that the emissions reductions will be encouraged using either a comprehensive cap and trade system or carbon tax. As is the case under the Kyoto Protocol, it is envisioned that there could be trading of emissions reduction requirements by using the CO₂-equivalent emission for each species. To promote even greater attention to reducing emissions of CH₄, which exerts a very strong near-term warming influence, Moore and MacCracken (2009) propose that the CO₂-equivalence for methane be based on its significantly higher 20-year Global Warming Potential (GWP) rather than its 100-year value.

Because CO₂ emission caps are not initially applicable to middle and low-income nations, mechanisms to support clean development will be a useful investment to help these nations improve their energy efficiency. Based on a credit-system, reductions below an agreed-upon baseline would be allowed to be sold to other countries to satisfy their

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Kyoto in Retrospect  

John-Michael Cross

Thirty-seven countries, representing nearly 40% of 1990 greenhouse gas (GHG) emissions (excluding LULUCF), committed to emission reductions under the 1997 Kyoto Protocol. Members of this group included the developed world (with the exception of the U.S.) and former Soviet nations. By 2005, these nations reduced their emissions by 11% below 1990 levels. However, this is primarily due to the Soviet countries’ economic collapse of the early 1990s, not because of climate change policies. By contrast, the remaining countries together increased their emissions by 7.5%, with few individual countries expected to meet their Kyoto commitments.

The Kyoto Protocol succeeded in implementing international-scale binding GHG emission caps and market-based flexibility mechanisms. It was limited in that it set no long range goals for emission reductions, did not adequately involve developing countries, and did not provide enough incentives to motivate countries to join the agreement or to comply with their commitments. Global emissions increased by 25% from 1990 to 2005, highlighting these limitations.

A more effective international climate agreement is essential to slow the effects of climate change. Average atmospheric CO2 concentrations have reached 387 ppm and will continue to climb. This is projected to increase the global average temperature during this century by 2.5-4.5°C over pre-industrial levels. Anthropogenically-induced temperature increases have already led to ice melt, rising sea levels, and changes in precipitation (including more intense storms and more droughts). These global changes threaten food and water security, displace populations, stress ecosystems, and threaten lives and livelihoods.

These threats to ecosystems and human populations are the stakes of the Copenhagen negotiations. This fact must remain clear and prominent in the midst of discussions over emissions targets and economic considerations. We cannot afford for Copenhagen to become another lost opportunity.

Talks at Bonn  

Justin Van Der Horn

As precursors to the upcoming Copenhagen conference in December, the United Nations Framework Convention on Climate Change (UNFCCC) has scheduled four climate change talks. The first two talks were held in March and June in Bonn, Germany and the remaining two will be held in Bangkok in September and Barcelona in November.

The first Bonn round in late March launched the negotiations, and during the most recent round, draft papers were reviewed and debated. The papers were presented by the Chairs of the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) and the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP) as well as by member parties to the meeting. Little progress was made on the draft texts, which may or may not form the basis of a future Copenhagen Protocol, a highly contested possibility. The two ‘draft non-papers’ presented by the chair of the AWG-KP focused on individual and aggregate commitments of Annex I parties beyond the Kyoto Protocol, but the main conclusion was that a document should be redrafted based on the Bonn discussions for the next AWG-KP meeting. In other words, the drafts were effectively rejected.

The IPCC deems necessary 25-40% reductions under 1990 levels by 2020 to prevent “potentially disastrous effects of climate change.”

The AWG-LCA chair’s draft legal document was divided into three parts. It addressed amendments to the Kyoto protocol, related climate issues, and the implementation of the Bali Action Plan: a 2007 UN agreement that calls for long-term cooperative action on climate change mitigation, adaptation, finance, and technology, and established the two-year negotiation path that will climax in Copenhagen this December.

Yvo de Boer, executive secretary of the UNFCCC secretariat, highlighted four negotiating points critical to the progress and success of AWG-LCA talks:

- extent of greenhouse gases emissions reductions industrialized countries are willing to commit
- actions of major developing countries to limit emissions growth
- financing methods for developing countries’ adaptation and mitigation efforts
- management of finances

The few targets that industrialized countries have announced relative to the first point fall far below the necessary 25-40% reductions under 1990-levels by 2020 that the IPCC deems necessary to prevent “potentially disastrous effects of climate change.”

Japan announced a commitment to a 15% reduction below 2005 levels. In real terms, this equates to an 8-9% reduction under 1990-levels by 2020. Since Japan has already pledged to reduce emissions 6% by 2012 under Kyoto, this additional promise only amounts to a 2% cut between 2012 and 2020. At the beginning of the negotiations, Japan was expected to set an example with its emissions cuts considering its role as host of the 1997 Kyoto negotiations. Instead, Japan emerged as the prime example of weak (Continued on page 15)

### Historical per capita CO2 emissions (metric tons of CO2), 1980-2006

[Graph showing historical per capita CO2 emissions from 1980 to 2006 for various countries.]
Ecuador’s Yasuní region contains a vast, lush rainforest, teeming with flora and fauna, which prompted the Ecuadorian government to declare it a 982,000 hectare National Park in 1979. Jaguars, monkeys, and at least 630 bird species live in Yasuní, and a single hectare of this Amazonian land hosts as many tree species as exist in all of North America – reason enough for the United Nations Educational, Scientific and Cultural Organization (UNESCO) to declare Yasuní a biosphere reserve in 1989. This biodiversity hotspot is also home to indigenous Waorani, Quichua and Shuar peoples and their traditional cultures, which is why in 1999, part of Yasuní was designated an ‘Untouchable Zone,’ to provide refuge from oil drilling for indigenous people choosing to live in isolation.

Yet despite these overwhelming reasons to conserve and sustain this land, the billion barrels of crude oil in the Ishpingo-Tambococha-Tiputini (ITT) reserve beneath Yasuní provide strong temptations to ignore the existing protections and exploit the land by drilling for this valuable commodity.

However, against the norms of modern development that push nations to consume natural resources to escape poverty, Ecuador has taken a wildly different approach. In February 2007, President Rafael Correa called on the international community to pay Ecuador not to exploit the oil.

Under a business-as-usual development model, Ecuador would earn $720 million per year that oil is extracted. This number is substantial in a country where 60% of the population is poor and half of export revenues come from oil. The oil under Yasuní is 25% of all known reserves in Ecuador, so for Correa to suggest that Ecuador, which for a quarter century has based its entire economy on oil exports, leave this potential profit untouched, is a revolutionary proposal.

Correa understands, though, that oil has brought his country “more bad than good.” Drilling for the oil under Yasuní wouldn’t bring revenue to Ecuador for five years after the project began, and profits would cease five years later when the oil ran out. Historically, the “resource curse” of oil exploitation has failed to relieve Ecuadorians of poverty, instead causing watershed degradation, deforestation, and toxic pollution with grave health impacts to indigenous people. According to Pablo Fajardo, a lawyer for the Ecuadorian network Frente de Defensa de la Amazonia, “the population is being exposed to serious health hazards and illnesses related to oil spills and deliberate waste dumping while they often live in fear of companies, whose power is expressed through threats and violence. By using private armed forces, the companies try to control and stifle local resistance at any price.” The short burst of revenue from oil does not justify the long-term environmental damage, devastating health effects, or human rights violations. Natural resource consumption has never been a sustainable method of poverty alleviation or development; Correa understands this, and would prefer the ground undrilled and the oil untouched.

There is a steep opportunity cost to protecting Yasuní, though, which is why Correa has asked the international community to pay Ecuador 50% of the foregone oil revenues, about $350 million annually for ten years. For years, industrialized nations have been asking poor countries to adopt low-carbon development plans as part of the global effort against climate change; Correa has promised to walk the walk – if rich nations will help.

According to Carlos Larrea, a professor at Quito’s Andina Simón Bolívar University and one of Ecuador’s leading economists, international environmental organizations would administer a compensation fund for Ecuador, and the interest would be used for national conservation and social development projects. Such a fund would “allow the state to obtain an indefinite resource flow for sustainable human development,” whereas oil extraction would provide only a short burst of profit. The quantifiable value of Ecuador’s contribution to the reduction of greenhouse gas emissions is much larger than the foregone profits from oil exploitation. The 436 million tons of avoided carbon dioxide emissions, when converted to carbon credits on the international market, financially justify the conservation of Yasuní. Additionally, the value of ecological services such as water purification and oxygen production performed by the rainforest make Correa’s request for compensation look modest. Protecting Yasuní, says Larrea, is “the only reasonable option for the future of a global society that aims to live in harmonious coexistence with nature.”

But will the international community step up and provide the funds? If they do, will Ecuador protect Yasuní forever? Many are skeptical, citing Ecuador’s history of political turmoil (Correa is the eighth president in a decade). However, many are optimistic, calling Correa’s proposal truly sustainable, and the first of its kind. The governments of Spain, Italy, Belgium and Norway have expressed interest in the ITT proposal, and organizations like the Wallace Global Fund have committed sums to the initiative. And on June 26, 2009, Germany’s Ministry for Economic Cooperation stated that they would pay $50 annually into a fund under the IADB or UN.

This move by Germany is essential in creating momentum among the rich countries who have called on developing nations to curb deforestation, but who have not tangibly helped this goal. If more countries pledge funds, Ecuador’s ITT proposal may succeed in revolutionizing the way society values its natural and social resources. Protecting Yasuní would not only avoid carbon dioxide emissions and water pollution, but would allow Ecuador to invest in human capital and uphold human rights for indigenous peoples. Battling climate change would be economically linked with promoting a sustainable society. Ecuador’s bold proposal, and Germany’s strong response, are steps in the right direction towards integrating the preservation of forests into a new climate protection framework in Copenhagen.
India: Poverty Eradication for Climate Adaptation

Samuel A. Sherer, Senior Fellow

As the second most populous country in the world, the fourth largest total greenhouse gas (GHG) emitter (not counting the EU as one entity) and a long-time influential trendsetter for developing countries, India's position will be an important indicator for the success of Copenhagen and subsequent climate change negotiations. Dr. R. K. Pachauri, an Indian, chairs the IPCC, and Indian intellectuals have played a major role in assessing climate science and proposing adaptation and mitigation measures.

In 2005, total GHG emissions for India were 1,853 million metric tons equivalent of carbon dioxide (Mt CO₂), only 4.9% of the world total of 37,767 MtCO₂. However, India is representative of many developing countries in that its present per capita level of greenhouse gas (GHG) emissions, at 1.54 metric tons, is far below per capita levels in the U.S. (22.8) and China (5.35).

However, the percentage composition of GHG emissions for India are quite different than the composition for China, the U.S. and the world as a whole (see graph). Though the percentages of the total that are carbon dioxide (CO₂) or nitrous oxide (N₂O) emissions for India are below those for the U.S., China, and the world, the percentage attributable to methane (CH₄) is much higher due to the predominance of rice and dairy, and the sacred status of cattle. As noted in the Moore and MacCracken Lifetime Leveraging paper (2009), the composition of GHG emissions is an important part of any climate negotiation.

India also represents the tension between the resource needs for development and the vulnerability to the likely effects of climate change. This tension is outlined in the National Action Plan on Climate Change prepared by the Prime Minister's Council on Climate Change and publicly announced in a speech by Prime Minister Manmohan Singh on June 30, 2008.

On the one hand, India is in the midst of a long-term program focusing on rapid economic growth as an essential precondition to poverty eradication and improved standards of living. The economic reforms implemented since 1991 have led to GDP growth rates of roughly 8% annually over the period 2004-2008. Substantial economic growth is expected to continue: the Economist projects a growth rate of 5.5% for 2009 and 6.4% for 2010, a rate exceeded only by China, projected to grow at 6.5% for 2009 and 7.3% for 2010. The U.S. and the rest of the developed world is expected to have negative growth rates for 2009 and growth rates under 1% for 2010. However, as noted in the National Action Plan, this progress for India is relative. In 2004/2005, 27.5% of the population still lived below the poverty line and 44% of the population lacked access to electricity. Since the poor (especially women) are most susceptible to climate change, economic development and poverty eradication will be the best forms of adaptation to climate change. On the other hand, India has great vulnerability to the likely results of climate change. Melting Himalayan glaciers may flood the North Indian Plain, the breadbasket and center of Hindu culture. Changes in the summer monsoon's pattern and intensity could cause widespread drought. Rising sea levels will threaten India's 6,500 km. of coastline, home to nearly half of India's population. Deforestation in one of the largest remaining forests of the world will hinder people traditionally dependent on forest resources for their livelihood.

Further, the speech by Prime Minister Singh and the National Action Plan note that India's culture emphasizes quality of life and not material things. Singh stated that India has a civilizational legacy which treats nature as a source of nurture and not as a dark force to be conquered and harnessed to human endeavor. The speech concludes with Mahatma Gandhi's message that the earth has enough resources to meet people's needs, but will never have enough to serve their greed.

This spirit must underlie any strategy for sustainable development in India.

The National Action Plan reflects these messages. It prescribes eight National Missions to combat climate change: solar energy, enhanced energy efficiency, sustainable habitat, water, preserving the Himalayan ecosystem, Green India (forestry), sustainable agriculture, and a final mission on strategic climate knowledge. In each of these areas, India has already developed policies, modern legislation, and mitigation strategies to reduce GHG emissions.

India officially outlined an international negotiation strategy in The Road to Copenhagen: India's Position on Climate Change Issues, dated February 27, 2009. India, in line with its G-77+China partners, awaits actions by the developed world and especially the U.S., to which it will react. The Indian government advocates a fair and equitable outcome based upon the principle of common but differentiated responsibilities and respective capabilities as set forth in the 1992 U.N. Framework Convention on Climate Change (UNFCCC). It needs an outcome that allows for accelerated social and economic development in order to eradicate widespread poverty, but which also creates a global regime supportive of ecologically sustainable development.

India wishes to continue with the Bali Action Plan from the 13th Meeting held in De-
AFRICA AND AMCEN: A UNITED FRONT

Effie George

The African continent presents a complex and multivariable conundrum: it is the continent with the fewest greenhouse gas emissions, yet it will inevitably suffer the most from the impacts of climate change environmentally, economically, and socially. As the Copenhagen Conference quickly approaches, the 53 nations of Africa, following the strong example set recently by South African leadership, have come together to develop a unified approach to climate change and international agreements through the African Ministerial Conference on the Environment (AMCEN). With this group, the African continent may have the leverage it needs to mobilize change at Copenhagen.

The magnitude of the stressors that currently impact Africa have the potential to converge with climate change in an unprecedented and, to a large extent, unpredictable way. Climate change will enhance the continent’s problems, including the spread of viruses, armed conflict, economic globalization and depletion of resources, making it financially impossible to do more than fund the immediate correction of crises, stymieing development. According to the United Nations Environmental Program, the current cost of managing the effects of climate change and its impact on preexisting crises on the African continent exceeds $1 billion per year.

One of the greatest threats that climate change poses unilaterally to the nations of Africa is its potentially detrimental effect on agriculture. According to the Intergovernmental Panel on Climate Change (IPCC), agriculture represents 40% of the gross national product, and 55% of the total value of exports. 70% of African workers are employed in some form of agriculture; however, very few use any sort of irrigation, making them exceedingly reliant on rainfall for production.

Climate change has the potential to increase water-related suffering in the 19 countries officially classified as water stressed (many of which are in Africa). The IPCC reports 75-250 million people will be exposed to water stress in the next decade, a result of a dramatic decrease in precipitation. It is predicted that as a result of this water stress, agricultural yields may drop by 50% around the continent by 2020, affecting livelihoods, increasing the inevitability of famine, and yielding unprecedented numbers of environmental refugees.

Rising sea levels threaten to submerge the low-lying coastal regions of west and central Africa. This change will also create environmental refugees from the rapidly growing coastal cities, who out of dire constraints and necessity will flee to better equipped nations.

In the face of these threats, environmental officials from the African nations have come together as AMCEN with the hope that as a united front, the international community will be forced to consider the burgeoning needs of the African continent when conducting global climate change negotiations.

AMCEN, established in 1985, now provides a permanent forum in which representatives from all 53 African nations can come together to discuss and advocate environmental policy, with a specific focus on sustainable development and agriculture. At the most recent scheduled conference session in June 2008, the African ministers formally recognized the need to establish and publicize a shared vision for future climate change agreements that incorporated both scientific evidence and sweeping political consensus. It was the May 2009 special session, however, that resulted in the Nairobi Declaration based on the 2008 agreements that offers the most insight into what Africa hopes to gain from the Copenhagen talks and demonstrates the African continent’s commitment to adapting to climate change.

The African ministers, in forming the Declaration, agreed that a future international climate change agreement must accommodate and finance African priorities of sustainable development, poverty reduction, capacity building and technological progress. These elements of Africa’s united climate change policy demonstrate a continental commitment to adaptation and mitigation, and suggest that Africa is eager to change and grow through sustainable means, with support from the international community.

Climate change is expected to make the continent increasingly reliant on rainfall for production. Water stresses may lead to a 50% drop in agricultural yields in Africa by 2020.

“Africa needs help to leapfrog the emissions-intensive stage of economic development, to ensure that the mistake of the West is not repeated.”

The Nairobi Declaration’s call for improvement of clean development mechanisms and its insistence on equal global distribution of sustainable development projects demonstrates the need to consider the link between climate change and economics, specifically in the context of the developing nations of the African

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South Africa: A Leader on the Continent

South Africa, the most developed of the African nations and the continent’s largest polluter, has demonstrated initiative in climate change programs and policies under Marthinus van Schalkwyk, Minister of Environmental Affairs and Tourism. These measures can potentially serve as a model framework for other African nations’ climate change adaptation and mitigation policies. South Africa relies heavily on coal for energy (90% of the nation’s electricity comes from coal sources), and as such the nation yields over 9 tons of CO₂ per capita per year. ESKOM, the company which supplies 95% of the nation’s electricity, produces over half of the country’s greenhouse gas emissions, and the energy sector emits over 70% of the nation’s greenhouse gas emissions. In the face of the worst energy crisis in decades, little emphasis has been placed on mitigating the use of coal. Through the work of van Schalkwyk and the cabinet, however, South Africa is emerging as a leader in these issues, demonstrating forward thinking through realistic policies.

Though South Africa is not legally required through Kyoto to take dramatic reduction steps because of its status as a developing nation, van Schalkwyk, facing data that suggest that a lack of action could lead South African emissions to quadruple by 2050, has pushed for a progressive pollution policy that emphasizes sustainable development through clean energy technology and international cooperation.

In July 2008, South African officials announced cabinet level commitments to a pollution policy of “peak, plateau and decline.” Through this framework, pollution will peak at 550 megatons (100 megatons above 2003 levels) by 2020-2025, remain steady and then gradually decline. In a keynote address in Washington, DC in a conference on emerging strategies for international climate and investment policy, van Schalkwyk called the proposal “highly ambitious for a developing country,” stating that “this framework is motivated by climate change concerns, but very importantly also by our energy access, energy security, sustainable development and poverty eradication imperatives.”

By maintaining this stance and the belief that climate change is equally an “energy and development question,” van Schalkwyk is reaffirming the AMCEN commitment to sustainable development through low carbon energy technology. Similarly, van Schalkwyk has ambitious plans to generate 15% of the nation’s electricity from renewable sources by 2020, as the nation “continues to diversify the energy mix away from coal whilst shifting to cleaner coal.” Van Schalkwyk has openly discussed the possibility of nuclear energy as a vital component of future energy use, as South Africa expands its sustainable energy sector.

South African rhetoric and actions have demonstrated an understanding of the necessity for international cooperation in ensuring the success of climate change adaptation and mitigation projects. In April of this year, van Schalkwyk met with environmental leaders from the 17 biggest emitters of greenhouse gases in Washington to discuss policy and arrangements pre-Copenhagen. Though this conference yielded merely suggestions and ideas for the future, it built a platform for South Africa and van Schalkwyk to become a force in negotiations.

Looking forward, van Schalkwyk said, “we are putting our best efforts into making a fair contribution to this global challenge – but the extent to which South Africa will be able to realize its ambitious vision will depend on the support that the international community gives through finance, technology transfer and the building of human and institutional capacity.” In 2009, the National Climate Change Summit was held, reaffirming the statements and commitments made in 2008, with the hopes that a comprehensive National Climate Change Policy can be drafted and ratified after the Copenhagen negotiations.

South Africa has demonstrated that it can be a leader in Africa on issues of climate change. What remains to be seen is whether the nation will receive adequate attention and support from the international community. Though the work to be done to protect South Africa and the African continent is massive in scale, van Schalkwyk’s message remains: “together, we can.”

An Ethiopian Perspective

For Ethiopian Prime Minister Meles Zenawi, climate change in Africa is a matter of accountability. Rich nations of the world, he argues, must be required to compensate African nations for the disastrous effects of climate change from the industrialized nations’ history of high emissions.

Citing theories that suggest that northern pollution was a factor in the Ethiopian famines in the 1980s, Zenawi stated, “Africa is going to be very significantly affected [by climate change]…some parts of the continent may become uninhabitable. Therefore, those that did the damage have to pay.”

Looking to future negotiations, Zenawi said, “Any agreement in Copenhagen which does not include substantial compensation for Africa would be illegitimate,” further adding, “I hope that it won’t come to lawsuits.” Zenawi asked rich nations to consider the sovereignty of African nations, demanding an end to foreign aid to Africa with economic policy mandates attached. African nations need to be given space to develop their own economic policies while still receiving foreign aid, he argued, in order that they may prepare for continental crisis caused by climate change.

“I think the international community could and should provide adequate policy space, live up to its commitments of development assistance, limit global warming and pay compensation for the unavoidable damage caused by it,” Zenawi said.
REFLECTIONS FROM UGANDA

Julie Arrighi, Uganda Red Cross Society

In rural Apac, Uganda, maize is withering and groundnuts are wilting. The primary rainy season, which officially ended in June, yielded less rain than normal, leaving many families hungry, and many crops, which should have been harvested by now, thirsty for water in order to reach maturation. What is the cause? One year’s fluctuation is certainly not enough to declare that climate change is real and present. However, speak with local farmers and NGOs and they will tell you that recent years have brought longer dry spells and lower crop yields.

Projected climate change effects in Uganda include more erratic rainy seasons, with increased intensity of less frequent rainstorms, interspersed by longer dry spells. While this is a common trend around much of the world, roughly 80% of Uganda’s residents rely directly on natural resources to sustain their livelihoods, leaving the population highly vulnerable to an unpredictable climate.

Quantitatively, climatic change in Uganda is hard to prove. Historically, economic constraints and more immediate humanitarian crises have resulted in significant gaps, both spatially and temporally, in Uganda’s climate monitoring network. Qualitatively however, many locals would argue that seasonal changes are already being observed. Throughout Uganda traditional indicators of the proper time to plant are no longer reliable, forcing farmers to take greater risks - plant crops more often in hopes that rains will last, and subsequently lose more when the rains fail to persist.

Many of the negative effects that climate change will have in Uganda are complexly interwoven into a variety of larger social and economic challenges creating a dearth in adaptive capacity. As traditional crops become less suitable for growth due to prolonged dry spells and damage from more intense rains, lower yields will force vulnerable, subsistence families to expand their planting areas or devise alternative sources of income in order to sustain their livelihoods. With limited land available and over 97% of Ugandans reliant on biomass to meet their basic needs for hot water and cooking, it is likely that many subsistence families will turn to charcoal production as an additional source of income.

Deforestation is already a major concern in Uganda. A report released this month states that Uganda lost 30% of its forest cover between 1990 and 2005 and could lose all of its forest cover within the next 41 years, unless deforestation stops. In conjunction with increased intense rainfalls, deforestation will result in increased rates of soil erosion and incidences of flooding. In many cases this will also lead to higher rates of diarrheal disease due to poorly contained fecal waste contaminating drinking water supplies. Climate change also threatens Uganda’s vulnerable coffee industry, with the potential of eliminating 40% (256.8 million USD) of Uganda’s export revenue. Warmer temperatures will also lead to increased incidences of Dengue fever and malaria.

In countless cases throughout Uganda, and much of the developing world, climate change adaptation challenges have been identified, culturally sensitive solutions have been devised and people are eager to begin implementation. At the international level, the newly formed Climate Change Unit in the Ministry of Water and Environment is hard at work preparing Uganda, with the help of the Danish government, to have a stronger voice in the Copenhagen negotiations. The economic realities of implementing widescale solutions in developing countries poses a formidable challenge which requires the assistance of the international community – this is why Copenhagen can’t afford to fail. continent. In a region highly dependent on climate for a thriving economy, there are strong links between development and climate change adaptation. The ministers have expressly stated that climate-proofing investments and an emphasis on renewable energy and energy efficient technologies to aid in sustainable development are absolutely necessary to equip Africa with the tools to survive potentially catastrophic climate change.

Yvo de Boer, Head of the UN Climate Change Secretariat, in a November 2008 address emphasized this connection between development and climate change adaptation by stating that, “Africa needs help to leapfrog the emissions-intensive stage of economic development, to ensure that the mistake of the West is not repeated.”

Further, the Declaration discusses the notion of carbon credits as a means of positioning Africa as a competitor in the international low-carbon economy. The Declaration suggests that expanding the use eligibility for carbon credits to include sustainable land use, agriculture and forest management will allow Africa to gain an advantage in international economics while simultaneously boosting low-carbon development.

The African ministers require of a future international agreement only that which will prove necessary for the continent’s continued development and eventual survival: aid with sustainable development, poverty reduction, technological advancements, capacity building and leadership from developed nations. Africa has the potential to continue to develop through carbon-sustainable means; however, it is only with the aid of developed nations and the international community that Africa will be able to thrive with the security of adaptation and mitigation measures.

The united African front developed through AMCEN and explicitly outlined in the Nairobi Declaration demonstrates the African continent’s dedication to protecting its citizens from the detrimental effects of climate change and a commitment to building a sustainable future.
On April 22-24, the Northwest Indian College in Bellingham, Washington hosted a conference to discuss the impact of climate change on Northwest coast Tribal fisheries. Those attending and presenting included Tribal elders, government scientists, academics, and students of the Northwest Indian College (NWIC). The conference, which was supported by NASA, the Bullitt Foundation, and the Climate Institute, served as a forum for sharing wisdom about the environment and for discussing solutions to the fisheries crisis. In his opening remarks, Steve Pavlik, conference coordinator and professor of Northwest Indian studies and science at NWIC, discussed the importance of mutual understanding between scientists, policymakers, academics and Indians in urgent discussions of climate change. It is essential to bring native people to the table alongside Western scientists, he said, because native “memory and knowledge of the land is long and deep,” while Western science’s “technology is staggering” and critical in adapting to changing ecosystems. According to Pavlik, these groups must collaborate and not talk past each other because “if we lose the health of the planet, nothing else really matters.”

Tom Sampson, an elder of Tsartlit First Nation, set the tone for the conference with eloquent words about the spirituality of salmon. “Humans are the babies of creation,” he told the participants, “so we learn from our older family members how to live. We learn from the salmon, from the wolf, the elk; each of these is older than us and they know how to live.” Sampson discussed that though recent generations have not learned how to be spiritually connected to the land or how to protect the environment, previous generations participated in a ceremony in which the elders gave children four pieces of salmon, saying “this is very little, but it is all you will ever need and you will never be hungry again.” In the course of a few quick decades, humans lost the ability to “fix their appetites.” The resulting greed is a power we can’t control, Sampson said, and rather than be the salmon’s protectors, we have become “the instruments of our own self-destruction.”

Nate Mantua, a member of the Climate Impact Group at the University of Washington, outlined the evidence that we are in fact destroying the resources upon which we rely. Retreating glaciers, declines in low-elevation snowpack, higher air and water temperatures, and lower river flows are all caused by anthropogenic greenhouse gas emissions. What does this mean for salmon? With less snow melt, the summer low-flow season is shorter, spelling trouble for egg incubation. Ocean acidification and destruction to coastal habitat and food chains are also problematic, as 90% of a salmon’s growth occurs in the ocean. Perhaps worst of all, river temperatures are approaching 21°C (69.8°F), the thermal stress threshold for salmon that halts upstream migration and increases vulnerability to disease. According to Bob Bilby of the Weyerhauser Company, 20% of salmon habitat in Washington and 40% in both Idaho and Oregon will be completely uninhabitable by 2090.

Already, adverse conditions are hindering salmon survival. In 2002, the effects of climate change combined in a perfect storm scenario on the Klamath River. Water-use conflicts, two endemic fish diseases, low water flows and higher temperatures due to drought collectively caused the loss of 30,000-60,000 adult Chinook salmon.

River temperatures are approaching 21°C, the thermal stress threshold for salmon that halts upstream migration and increases vulnerability to disease.

Shellfish are affected by climate change as well, as ocean acidification due to higher carbon dioxide concentrations in the atmosphere hinders shell development. Lizzie Oberlander of Lummi Shellfish Operations discussed the implications for entire food-chains: as oysters, clams and mussels are unable to absorb enough calcium carbonate to grow shells and survive, the birds and aquatic mammals that eat shellfish also suffer. This dramatic loss of salmon, shellfish, birds and mammals destroys ecosystems and hurts the Indian nations who rely on them. Whereas in the past, Indians were forced onto reservations, the modern form of marginalization is through environmental destruction, which Preston Hardison of Tulalip Tribe calls “ecological dispossession – when the green rug is pulled out from under you.”

With signs of a changing climate outside our front doors, many at the conference wondered why people aren’t more concerned, as environmental changes are occurring at a faster rate than expected. Terry Williams of Tulalip Natural Resources noted that while “the impacts are startling, even more startling are the people who still reject the idea of climate change.” Williams attributed this disconnect to the fact that the landscape that seems natural to us is the one we see when we’re born. For example, Sampson’s grandson is amazed to see 100 ducks, but Sampson can remember 30 years ago when there were 5,000 or 10,000 ducks at the pond. “We’ve altered everything so radically,” says Williams, “that when someone in the state legislature says there’s no climate change, we can’t show them the lack of ducks, the fish, the wetlands, because they never saw them.”

The accelerating rate of change to salmon habitat has scientists and tribal elders alike worried about the future of the species. Pete Bisson of the U.S. Forest Service is concerned that the rate of temperature change and stream flow may outpace the salmon’s ability to adapt. Mary Ruckelshaus of NOAA’s Northwest
Fisheries Science Center, however, is more optimistic. She suggests a focus on improving habitat conditions at each stage of the salmon life cycle (including spawning, migration, etc) will result in salmon exhibiting positive biological responses. Implementing a restoration strategy can buy time for salmon to recover while waiting for policymakers to address the root cause of climate change: greenhouse gas emissions.

According to Ruckelshaus, effective restoration efforts will include maintaining shade cover to minimize increases in water temperature, promoting a forest structure that retains snow water to stabilize river flow levels, protecting springs from water appropriation, disconnecting the road drainage network from streams to lessen the discharge during intense storms, and ensuring that fish have access to their required seasonal habitats. Scott Vanderkooi of the Western Fisheries Research Center added that removing dams, such as the four on the Klamath River, would allow fall Chinook salmon to migrate and spawn earlier and in better thermal conditions, since dams increase water temperatures beyond the climate change induced warming.

Tim Beechie, a member of NOAA’s Ecosystem Process Research Team, raised the issue of salmon resilience versus sensitivity. Decreased habitat diversity and a smaller population can limit salmon’s ability to absorb imposed stresses such as dams or influxes of farmed fish. Restoration strategies, therefore, should not only reduce climate change impacts but also increase salmon’s range of options. The key actions will counter changes in stream flow and temperature, Beechie said; effective tactics will include reducing water withdrawal (dams), improving riparian areas (shade), and restoring incised channels.

These restoration strategies are necessary to ensure salmon’s immediate survival; long-term protection will require serious reductions in greenhouse gas emissions to alleviate the damage climate change inflicts on river and ocean ecosystems. Hardison warned that “ecosystems have thresholds; once they break down it will be very difficult and expensive to bring them back.” Many at the conference agreed that it would take cooperation on all levels to achieve results, including strong participation from native populations. Hardison called for opportunities for Tribal representatives to speak with U.S. Congress on a government-to-government level about environmental protection. “We have to be at the table, because we bring so much to the table. We’re collaborators,” declared Billy Frank, Jr. of the Northwest Indians Fisheries Commission.

Fawn Sharpe, Chairwoman of Quinault Nation, strives for fair representation of the 110 million indigenous people (largely living on biodiversity hotspots around the world) in climate change negotiations, such as the upcoming talks in Copenhagen. “What is the value of Indian lands to the U.S. in meeting greenhouse gas emissions reductions standards?” asked Sharpe. “The science community is noticing that Tribal restoration strategies are best practice for resource management and a balanced ecosystem,” she added. Sharpe has been working with five tribes in five countries to hold a caucus this summer regarding Tribal knowledge of mitigation and adaptation strategies, the findings of which will be brought to Copenhagen in December.

Efforts such as Sharpe’s are necessary to alert policymakers at Copenhagen of what is at stake should the negotiations fail, or produce emissions reductions standards that are weaker than scientists’ recommended levels. Unless CO₂ concentrations are controlled, native populations risk losing not only the environment around them but also their economic livelihoods and cultures.

Oscar Kawagley of the Yupik tribe in Alaska stressed the threat greenhouse gases pose to his lifestyle. “The cold made me. The cold made my language and its 37 words for snow conditions. The cold made my culture and my technology. So what am I going to do without the cold?” The fossil fuel-based development of rich nations has harmed native peoples’ ability to practice their culture and maintain the lifestyle of their elders.

“It’s not just about salmon and shellfish,” said Hardison. “It’s about the whole range of things that sustain a culture. For indigenous people, it’s vital for the survival of culture and identity to work on ecosystem restoration.” In the words of one conference participant, “we want to do what we can in our little corner of the world, but the problem is bigger than that. I don’t know if we can live off the land anymore.” Despite generations of knowledge about environmental protection, many Tribal elders wonder if they will ever see ecosystems as healthy as when the elders were young. Bold action at Copenhagen will allow tribes in the Pacific Northwest to look to a time when salmon populations will recover, rather than if.
Global climate change has created two opposing groups of countries: the developed and the developing. Stuck in limbo are the emerging economies: those countries that have made significant economic progress, but are still, on a per capita GDP basis, developing. China is a prime example of such a country. As the world’s largest greenhouse gas emitter, China is criticized for its inaction, but in turn has been vocal in demanding that developed countries reduce their own greenhouse gas emissions.

Despite its remarkable economic growth over the past two decades, China’s per capita GDP still qualifies it as a developing country. However, China emits four times as much CO₂ as the U.S. and six times as much as the European Union or Japan for every unit of GDP. Despite its polluter status, China has been adamant that developed countries uphold the terms of the Kyoto Protocol as well as the Bali Roadmap, especially in regards to cutting emissions and providing technical transfers and financial support to the developing world. Recently, China demanded that developed countries commit to reducing their emissions by 40% below 1990 levels by 2020 under the agreements that will be produced in Copenhagen in December.

In response to the U.S. House of Representatives passing the American Clean Energy and Security Act, Li Gao, an official with the Climate Change Department of China’s National Development and Reform Commission (NDRC) said that the US did not live up to international expectations when it approved the bill, noting that the emission target stated in the bill “is far away from what China and the Group of 77 developing countries have requested” of developed countries.

“China has no other choice but to pursue sustainable development in order to meet the basic needs of its people and to eradicate poverty. In this process, the world is assured that China will make every effort to address climate change.”

- Zhenhua Xie

Though its demands on developed countries are high, China’s own commitments are vague. In 2007, China released its Climate Change Program, a comprehensive summary of pre-existing policies with a positive impact on pollution mitigation or improving energy efficiency. In its 4 trillion yuan (US $586 billion) financial stimulus plan, China touted that 350 billion yuan would be spent on ecological and environmental projects and another 160 billion yuan would be spent on innovation and R&D. However, much of this money was already slated to be spent, and very little new investment was added. Beijing officials often use these as examples of China’s efforts to combat climate change, and likely will continue to do so come December, should developed countries maintain their current positions.

In an interview with the Financial Times in February, China’s Premier Wen Jiabao said that his country “supports the Copenhagen conference,” and that the Chinese government will make it a “top priority” to tackle the challenge of climate change. He noted however, that it is “difficult for China to take quantified emission reduction quotas at the Copenhagen conference, because [China] is still at an early stage of development,” explaining that Europe had begun to industrialize several hundred years ago, whereas China has only been industrializing for several dozen. Though Wen’s facts are valid, it must also be recognized that China has leapt to the forefront of industrialization, surpassing even the U.S. in GHG emissions. Therefore, China should not take a backseat when it comes to enacting policies to combat climate change, but rather should take a proactive stance and be a leader among developing nations.

In an effort to accomplish this, in May of this year, China’s NDRC released a position paper on the Copenhagen conference. It stated that developed countries should uphold the “common but differentiated responsibilities” as outlined by the Kyoto Protocol, and developing countries should be able to take “nationally appropriate mitigation and adaptation actions.” However, these positions leave much room for interpretation. Though there should not be a one size fits all climate policy, there should be some framework guiding the responsibilities of individual countries, with consideration given to a myriad of variables, not only GDP levels.

Zhenhua Xie, China’s special representative on climate change, wrote in an article in The Guardian shortly after the release of the NDRC’s report: “China has no other choice but to pursue sustainable development in order to meet the basic needs of its people and to eradicate poverty. In this process, the world is assured that China will make every effort to address climate change.” He also discussed developed countries’ obligations, stating that success in Copenhagen will be dependent upon the “realization of the full, effective and sustained implementation” of Kyoto, and that non-protocol countries, i.e. the U.S., should “undertake comparable commitments with quantified emission reduction targets,” and that all developed countries should fulfill their financial support and technology transfer obligations.

To understand the views of Chinese officials on climate change, it is important to realize that economic development is paramount to the Chinese government, as this is what allows the Chinese government, as this is what allows the
Chinese Communist Party (CCP) to maintain its legitimacy, and thus national stability. Until recently, the Chinese government saw environmental and climate change laws as a complete hindrance to economic prosperity, but recently recognized the long-term economic benefits of pursuing environmentally sustainable policies.

This has come to the fore in the country’s energy policies: as China continues to pull more of its population out of poverty, demand for energy will increase as more people are connected to the electric grid and are able to purchase products which use electricity. If the Chinese government wishes to maintain stability and power, it will have to keep these populations happy, which means providing them with energy resources. This has resulted in a Chinese climate change policy more concerned with improving energy efficiency than reducing emissions: China has recently stated that they plan to attain 20% of their energy from renewables by 2020, and will continue their yearly goals of improving energy efficiency.

Regardless of how the government makes these changes, China will only pursue policies deemed economically beneficial. Currently, Chinese officials believe this requires technology transfers and financing from developed countries. Though Japan, Italy, and Germany all have set up either technology transfer programs or joint R&D programs with China, the U.S. will only consider joint venture R&D. Private U.S. firms have and continue to work with Chinese firms, but the governments have been unable to reach an agreement on this issue. Chief U.S. climate negotiator Todd Stern made a three day trip to China in early June to discuss potential terms of the Copenhagen agreement. Though no definitive documents were expected to be produced at these meetings, many around the world were disappointed with the results as Chinese representatives to the Bonn conference announced soon after the meeting’s close that China would not be bringing cuts in their overall emissions to the table in December.

As the Copenhagen conference draws near, it is imperative that all countries, regardless of their status as a developing or developed economy, work together to create and implement policies that will be beneficial to all in the long-term. For its part, China must assume a leadership role among developing countries not only in making demands on the developed world, but also by accepting responsibility for its own emissions.

International climate agreements have used 1990 as the baseline year from which to measure reductions in greenhouse gases (GHGs), which immediately predates the political and economic collapse of the Soviet Union. As a consequence, former Soviet countries are all significantly below the emissions targets set forth by the Kyoto Protocol. This has not been due to climate change policies, but a failure to regain the levels of industrial production that had been maintained by the Kremlin. These countries now possess a large excess of emissions credits, commonly referred to as “hot air.” There are fears that if these eastern European nations initiated a massive sell-off of the credits, it would flood the credit market and slash prices. While this has yet to happen, it remains a concern.

Of the fifteen former Soviet countries, Russia emits by far the most GHGs. It is responsible for two-thirds of the group’s GHG emissions, and emits five times more than Ukraine, the group’s second-largest emitter. In fact, as of 2005, Russia trailed only China and the United States in GHG emissions (excluding LULUCF), emitting five percent of the world total.

From 1990 to 1998, Russia’s GHG emissions plummeted by more than 36%. Emissions have steadily risen since, but remain approximately 25% below 1990 levels. If the growth trend of the past few years is maintained, emissions in 2017 would be 12-15% below the baseline, and emissions would return to the 1990 level sometime around 2025. Thus, any 2017 reduction target for Russia less stringent than 15% below the baseline allows the country to continue business-as-usual.

Russia has so far not been an active participant in the negotiations leading up to Copenhagen. It remains one of the few countries that has not yet set forth an emissions target proposal. There have been reports that the Russian government drafted a paper outlining the dangers of climate change and the need for adaptation and mitigation strategies, but the paper has not been made public. While this is a big step for a government that historically cast doubt on the science of climate change, the international community is forced to speculate as to how Russia will approach both domestic and international climate policy.

Expectations remain tempered. Most predict that Russia will not agree to any target that will slow their emission growth trend for fear of impeding their economic recovery, while many expect they will negotiate to bank their unused emission credits for future compliance periods. Nevertheless, Russia’s exact position remains uncertain. Until Moscow comes forward with a proposal, the international community will try to construct an agreement that will be adaptable to last-minute Russian involvement.

(Lifetime Leveraging, from page 3) Emission reduction goals, or if they wish, these credits could be banked to meet their future reduction requirements. Moore and MacCracken’s proposal also recognizes that technology transfer will be an important process to help countries generate further emissions reductions. They suggest that one way to promote technology transfer would be to have a premium for carbon credits that encourage and enable capacity building and technology transfer in the receiving country—basically, the objective would be to incentivize emissions reductions.

(Lifetime Leveraging “recognizes that there are political tradeoffs that will have to be made in negotiating the next climate treaty, and offers a way of approaching these tradeoffs that could minimize resulting environmental damage” (Moore and MacCracken, 2009). There is still the potential for the world to reduce emissions sufficiently to limit the likelihood of the most unacceptable changes in climate, and Lifetime Leveraging offers an approach that the authors hope can break the apparent international negotiating deadlock between developed and developing countries with a logical and equitable solution.

(China, from page 12)
The Board of Directors of the Climate Institute has elected Mark A. Goldberg to serve as the Institute’s Chairman. He succeeds William A. Nitze, who had been Chairman since November, 2002.

Goldberg is the Executive Vice President of the National Coalition on Health Care, a non-partisan alliance of businesses, unions, associations of physicians and other providers, patient advocacy groups, pension funds, and other organizations working for system-wide health care reform. He was formerly the Lester Crown Visiting Professor of Management and a Distinguished Faculty Fellow at the Yale School of Management, where he taught courses on health care policy, business strategy, and entrepreneurship in the non-profit sector. He previously served as a member of the White House staff, Editor and Publisher of the Brookings Review at the Brookings Institution, and Publisher of the McKinsey Quarterly at McKinsey & Company. His articles on health care policy, regulation, and other issues have appeared in a variety of publications, including the New England Journal of Medicine, Health Affairs, the Yale Law Journal, the Yale Journal on Regulation, the Washington Post, and the Wall Street Journal.

In announcing the appointment, John C. Topping, Jr., the Institute’s President, said, “Mark helped me found the Climate Institute and has been a source of wise counsel these many years. His experience and insights – regarding strategy, policy analysis, and communications – will be enormously valuable as the Institute works to build public awareness and engagement and to strengthen connections among science, policy, and action. The Board and staff are delighted that Mark has become our Chairman.”

November 2007 which called for cooperation in climate change mitigation and adaptation, supported by sufficient financial resources and technology transfers from developed to developing countries. In general, India supports a global package that would commit developed countries to significant reductions in their GHG emissions, achieve wide dissemination of effective technological innovations, and establish a collaborative R&D effort among developed and major developing countries for cost-effective technological innovations for a carbon-free economy.

With regard to mitigation, India notes that the UNFCCC and the subsequent December 1997 Kyoto Protocol do not require developing countries to commit any GHG emissions reductions. However, in his speech announcing the National Action Plan, Prime Minister Singh stated that India’s per capita GHG emissions will not exceed the average per capita emissions of developed countries as India pursues its social and economic development objectives. Given India’s current relatively low per capita GHG emissions, the standard gives India enormous leeway to increase emissions with development, but caps India’s emissions to any reduced average level achieved by the developed world. Existing programs in energy-efficiency, afforestation and other areas will help to limit India’s increase in GHG emissions as it develops.

There may be possibilities to negotiate reductions of the short-lived GHGs produced by black carbon (soot) in India (a major coal user) if substantial reductions of long-lived GHG emission are made by the developed world. However, it is unlikely that India would enter into such discussion until the number one black carbon emitter, China, agreed to a basic framework with the United States.

The Position Paper further states that India requires global action on adaptation. India already spends over 2% of its GDP to combat a high degree of climate variability resulting from droughts, floods and other extreme weather events. Under climate change such events would likely increase significantly.

According to India, financing for emissions reductions, such as a carbon cap and trade system or Climate Investment Funds under the World Bank, should be seen as supplemental to the multilateral financing mechanism of grants for adaptation and mitigation put forth under the UNFCCC, such as the existing Adaptation Fund. Such financing must also be supplemental to, not part of, general aid.

The Position Paper also notes that India made domestic commitments to its own population under the National Action Plan with its own resources, but does not wish to legally bind itself internationally to similar goals. In an interview in The Economist on June 6, 2009, Shyam Saran, Special Envoy for the Prime Minister for Climate Change, reiterated that India will not make any agreement at the expense of its development. Rather, action on climate change must enhance, not diminish prospects for development; action must be collaborative and not sharpen the division between an affluent North and an impoverished South, but give all members of the global community an equal entitlement to development and the fruits of prosperity.

The Road to Copenhagen paper was written several months before the May 2009 parliamentary election in which the ruling Congress Party and its allies won 261 of 543 seats, an increase of 38 seats from the 2004 election. This increased majority will allow the government more freedom of action but this change may not mean much in the approach to Copenhagen. As indicated above, India puts the burden upon the U.S. and other developed countries to reduce their per capita GHG emissions significantly before India acts to make any such reductions.
promises made by rich nations at Bonn. The US has not yet announced a reduction commitment, reminiscent of its failure to act under Kyoto. However, climate legislation has recently passed through the House of Representatives. If the American Clean Energy and Security Act becomes law, it could amount to emissions roughly 3% below 1990-levels by 2020 according to WRI estimates.

The EU also falls short of the IPCC recommendations despite committing to the largest cuts: 20% below 1990-levels and proportionally 30% if other developed nations commit to similar cutbacks.

Little progress was made on the other critical negotiating points, as underlying divisions between industrialized and developing nations on climate change mitigation remained an issue. For instance, China announced that it will not agree to a mandatory cap on emissions, citing the primary importance of raising its citizens out of poverty. China’s decision presents a considerable challenge as it is one of the largest contributors to global emissions and is viewed as a leader by developing nations in the negotiations.

Characteristic of other developing nations, China continues to press rich nations to share green technology, provide financing, and make the largest emissions reductions. Nevertheless, industrialized nations still fall far short of the demands for 40-45% reductions made by many developing countries, including a majority of the G-77, small island developing states (SIDs), and Latin American and African nations.

Since negotiators have been unable to reach consensus on viable solutions to the divide between industrialized and developing nations or the method and management of financing, the Bonn talks underscored these issues as roadblocks to success in Copenhagen.

To provide fresh and ‘fair’ solutions to those road blocks, a consortium of NGOs presented an alternative blueprint for a legally binding Copenhagen agreement. Its treaty tackles the issue of financing by planning a system of grants, insurance, and compensation packages for those countries most vulnerable to climate change. Negotiators from 192 states received the 160-page benchmark document with treaty-ready solutions for avoiding unacceptable risk levels identified by international scientists.

The consortium (including the WWF, Greenpeace, and other international organizations) suggests a “Copenhagen Climate Treaty” with three parts. The first part updates the Kyoto Protocol by strengthening Annex-1 (industrialized country) obligations. The second outlines a “Copenhagen Protocol” that expands on Kyoto by legally binding the US and by forming a low-carbon development path for developing nations which would be supported by wealthier nations. Finally, it lays the groundwork for the next 3 years in advance of the Kyoto Protocol’s expiration.

As talks continue in advance of Copenhagen, greater insight will be gained into what the official treaty will contain and which countries will play leading roles in mitigating climate change. Advancements in discussions can be followed via the UNFCCC, environmental NGO organizations, and the mainstream media.
Founded in 1986, the Climate Institute was the first non-profit organization established primarily to address climate change issues. Working with an extensive network of experts, the Institute has served as a bridge between the scientific community and policy-makers and has become a respected facilitator of dialogue to move the world toward more effective cooperation on climate change responses.

The Climate Institute’s mission is to ...

CATALYZE innovative and practical policy solutions toward climate stabilization and educate the general public of the gravity of climate change impacts.

ENHANCE the resilience of humanity and natural systems to respond to global climate change impacts especially among vulnerable groups (e.g. Native American tribes and Small Islands).

WORK internationally as a bridge between policy-makers, scientists and environmental institutions.