# Climate Facts and Figures

## Climate Science

The Intergovernmental Panel on Climate Change (IPCC) report that 'eleven of the last twelve years (1995–2006) rank among the twelve warmest years in the instrumental record of global surface temperature (since 1850).[1] Warming is most pronounced in higher northern latitudes, and land areas have warmed faster than oceans.[2]

# Climate Finance

Every dollar spent on adaptation could save about $60 in avoided losses [27]

Developing countries are expected to bear between 75-80% of the costs of harmful climate change though they are least responsible for causing the crisis[27]

Climate impacts already cost countries an estimated 1%-12% of GDP each year and this could rise to 19% by 2030 [27]

Developing countries have to shop around a confusing array of funds for relatively small amounts of money - each fund has its own eligibility criteria, application procedures and reporting requirements. For example there are currently over 20 climate funds as well as a considerable number of non-climate-focused funds that fund adaptation.[3]

Less than a tenth of climate funds disbursed to date are estimated to have been for adaptation to help poor people in developing countries who are bearing the brunt of climate impacts[3]

$0: the amount climate finance commitments are worth if they are not additional to overseas aid budgets

G77 and China call for all industrialised countries to contribute between 0.5 - 1% of their GDP towards a climate fund to help pay for adaptation and mitigation in poor countries – this would amount to between $67bn - 134bn a year. At the height of the financial crisis, the UK banking sector was being bailed out with public money worth $1.7 trillion[4]

75 million fewer children in school in 2010; 8.6 million fewer people receiving treatment for HIV and AIDS, 4.5 million extra deaths among children than could otherwise have been the case if aid budgets are raided for the $50bn needed to fund adaptation action in poor countries.

The now stalled US climate change bill would have yielded approximately $600m in 2015 and $800m in 2020 for adaptation finance.

$399.8 million - amount of money committed to international institutions to help pay for adaptation and mitigation in poor countries by September 2009. Just $128 million – less then a third - has been dispersed by this date (excludes bilateral donations and private sources such as the clean development mechanism). This is a fraction of the $1.2 billion American's spent on sun cream in 2009.

$1.1 billion - amount Germany is already taking from its aid budget to support adaptation in poor countries.

Oxfam is calling for rich countries to provide at least $150 billion to help poor countries adapt and reduce emissions by 2013– at least $50 billion is for adaptation – from innovative sources such as a levy on emissions from shipping and aviation. The global aviation industry alone is expected to turn over five times this amount in 2010[5].

$75–100bn per year - estimation by the World Bank in 2009 of the costs of adaptation (not including mitigation) in poor countries if global warming was kept to 2°C.[6] This money does not need to come from taxpayer's pockets – a levy on emissions from international shipping and aviation could raise $20 bn[7] and $200-$700 billion worldwide could be generated by a tax of around 0.05% on financial transactions.

Between $110 and 275bn per year: range of estimations on the cost of mitigation and adaptation in poor countries.[8] Most estimates are based on warming higher than 2ºC. Many scientists believe that current level of political ambition is putting the world on track for 4 degree centigrade of warming.

$100bn: The Copenhagen Accord suggests that $100bn in public and private finance should be raised to support adaptation and mitigation in poor countries

The world's 49 poorest countries have received about one-eighth – $450 million out of $3.5 billion – of funding from the Global Environment Facility[9]while one-third has gone to just three countries (China, India, and Brazil)[10].

Only $220 million has been donated to fund emergency adaptation plans (known as NAPAs) in the Least Developed Countries – just one tenth of the $2 billion estimated total plan costs.[11]

In 2009, the international community agreed to provide $30bn in emergency 'fast start' funding to help the world's poorest and most vulnerable countries deal with the immediate impacts of climate change. This is equivalent to just four times the amount the world spent on sun care products in 2009[12]. Different ways of measuring country contributions mean it is difficult to know how much of this money has been delivered – however it is clear that a significant amount of this money is not new and additional.

## Human Impacts

### Migration

Towards 2050, around 150 million people around the world may be forced to leave home as a result of climate change. Some 75 million of these climate refugees will come from the Asia Pacific region, and this number could rise to 150 million by 2100.

Some 26 million people have been forced to leave their homes as a direct result of climate change and a million more are added to this figure every year due to climate-related circumstances. Insular communities such as Vanatu, Tuvalu and the Gulf of Bengal have been forced to flee from the rising sea level.

### Humanitarian crisis

It is calculated that the number of people affected by climate-related humanitarian crisis will rise by 54% to 375 million by 2015[13]. This would threaten to overwhelm global capacity for response.

Disasters have a disproportionate impact on poor communities in developing countries. For example, while only 11 per cent of those exposed to hazards live in developing countries, 53 per cent of disaster mortality occurs in those countries.[14]

### Drought

Climate change could reduce the GDP of vulnerable countries by one fifth by 2030 if we do not take urgent measures.

**Health**

Climate change has caused an average of 150,000 deaths per year, due to different illnesses, since the 1970s, with half of all cases occurring in Asia.

The rise in temperatures will make it impossible to work at the same rate on hot summer days without severe consequences to health, causing serious damage to labourers paid by the hour and to the economy in general. Tropical cities such as Delhi could suffer a 30% decline in labour productivity.

**2010**

2010 has seen more than twice the number of lives lost as a result of climate-related disasters in its first three-quarters than the whole of 2009. It is also on course to record a higher number of extreme weather events than the ten-year average of 770. It is difficult to attribute individual climate-related disasters to climate change. But scientists predict that such extreme weather events will become more frequent and severe as a result of climate change in the future.

In 2010 so far…

- Pakistan logs the highest temperature ever recorded in Asia at 53.7° C.
- One of the Amazon's major tributaries falls to its lowest levels since records began
- in 1902
- Arctic sea ice extent records its third-lowest level
- In China alone flooding affects 140 million people and drought affects 51 million people

Russian heat wave:

- A massive six-week heat wave in Russia doubled Moscow's daily death rate to 700.
- Moscow experienced its hottest month since records began 130 years ago.
- 26,000 fires broke out, including scores around the capital where drained peat land caught fire and created thick smoke that shrouded the city.
- It is estimated that Russia will lose around $1 billion from its agricultural industry because of the drought and wildfires that destroyed 26% of its wheat crop. Total losses are estimated to be $15bn
- Russia – the world's third largest exporter of wheat – reacted to the disaster by banning its grain exports. Soon after, world grain prices rose and poor people were particularly affected.

Pakistan flooding:

- Nearly 20 million people, almost the population of Australia, were affected – 2000 people died and 1.9 million homes were damaged or destroyed.
- 20 percent of Pakistan - an area larger than England – was flooded and 5,000 miles of road and 1,000 bridges washed away.
- At least 2 million hectares of crops worth $1 billion were lost. One of the worst flood hit provinces is Punjab, Pakistan's bread-basket. This province produces around 75% of the nation's primary staple food wheat and there are real concerns that there will be insufficient local food supplies in Pakistan next year.
- At least 7,000 schools and 500 health clinics were destroyed and 5.3 million jobs lost or affected.
- The World Bank and ADB estimate the cost of flood damage to be $9.7bn.
- The UN appeal was it's largest-ever for a natural disaster at over $2 billion (it remains only 45% funded13). Less than six million people of the 14 million who need help are getting that help from the international community

Tuvalu sea level rise

- People in Tuvalu are finding locally-produced fresh food increasingly limited where it was once plentiful and fish stocks abundant and are now relying more on imported processed foods to survive.
- Medical problems like diabetes and hypertension – previously little known in the country – are now on the rise.
- At their highest point, Tuvalu's nine low-lying islands and atolls of sand and coral stand less than four metres above sea-level.
- The annual sea-level rise of around 5-6mm – together with the increased frequency and severity of storm events in recent years – is eroding coastland.
- Salt is now beginning to contaminate the islands' groundwater and scarce arable land.[22]

**China**

Beijing scientists have put the cost of reducing China's emissions at $438bn (€302bn, £265bn) annually within 20 years.

While China produces 17 per cent of the world's carbon emissions, it also accommodates 22 per cent of the world's population – making its per capita emissions a fraction of most developed nations and around a fifth of the carbon output of the average American.

China has also pledged to reduce the carbon intensity of its economy by 40 to 45 per cent by 2020 and has already taken steps toward that target.

Despite its reliance on coal, China is also becoming a world leader in renewable energy. It invested US $34.6 billion in clean energy last year compared with Australia's investment of 1 billion US dollars.

**Asia-Pacific**

Southeast Asia is one of the world's most vulnerable regions to climate change due to its expansive coastlines, highly concentrated population, coastal-oriented economic activity and high dependency on agriculture, natural resources and forestry.

In more severe future scenarios, the rising sea level could flood most of the Maldives and 18% of the territory of Bangladesh.

The average cost of climate change, if measures are not taken in Indonesia, the Philippines, Thailand and Vietnam, could be equivalent to losing 6.7% of their GDP each year until 2100, more than double the average global loss.

The Western Hills of Nepal have experienced a 1.8℃ temperature increase over the period 1975 to 2006[15] . With temperatures likely to continue to rise over the next 20 years[16], crop production will be directly affected and crop water demand will increase.

In Viet Nam planting and protecting 12,000 hectares of mangroves cost approximately $1m but reduced the costs of sea dyke maintenance by $7.3m per year.[17]

**Africa**

Africa is home to 15% of the world's population, but emits less than 3% of global pollutant emissions.

Some African countries will see their rain-dependent harvests cut in half by 2020.

Scientists predict that the number of people without adequate access to water in Africa will triple as a result of climate change, reaching 600 million by 2050. Africa will have to cope with year-round droughts as temperatures rise above 2°C scientists predict that an estimated two billion people will be affected by water shortages[18]

According to the World Bank, the 1m rise in the sea level predicted for the 22nd century will force 16 million Egyptians to leave their homes.

**Latin America**

Paraguay is on the countries in the Americas with most water availability. However, over the past 12 years the country has suffered from intense drought. Between 2008 and 2009 increases in droughts had serious consequences for the lives of many indigenous people in Chaco: leading to food insecurity, lack of water for human consumption, and the deterioration of people's health.

Farmers and agricultural experts confirm that changes in the climate in Nicaragua are becoming ever more serious and unpredictable. The first rainfalls arrive later and are over quicker than usual. For many farmers this means that they will only be able to harvest one corn crop every year rather than two, worsening the food insecurity problems that plague the country.

The increase in temperatures over the last 30 years has caused the glaciers of the Central Ecuadorian mountain range to melt. Andean and Ecuadorian communities see a common cause behind these changes (less snow and melting ice caps) and the reduction of water sources such as lakes and streams. This deterioration of water sources makes corn, broad beans and potato production more difficult.

Ecuador has nearly lost one third of its ice. It started in the 1980s and is still accelerating. The glaciers have all retreated miles. Cayambe has lost 40% of its ice mass, possibly 10% in just the last decade.[28]

Bolivia is one of the ten countries in the world most vulnerable to the effects of climate change.

- Bolivia is one of the countries least responsible for global warming. Yet it is one of the most exposed to its effects. In 2000 Bolivia was responsible for 0.35 per cent of world GHG emissions, compared to 16 per cent for the United States and 12 per cent for the European Union.

- Vast areas of Bolivia are already vulnerable to the threat of flooding and drought Bolivia already has a high percentage of its population at risk.

- For the first time ever in 2007 Bolivia entered the list of the top ten countries in the world most affected by disasters. In 2007 and 2008 it faced the worst emergencies of the past 25 years.

- The period from 2001 to 2004, for example, saw the highest number of declarations of emergency in the last 70 years. The last three years (2006-2008) have been even worse, with regular flooding, rivers overflowing, landslides, hail and frost. The numbers of women and men affected were very large: 560,000 in 2006/7 and 618,000 in 2007/8, which was equivalent to about 6 per cent of the country's population. In 2006/7, the total direct and indirect economic cost was estimated to be the equivalent of between 3 and 4 per cent of Bolivia's GDP annually.

- According to a study released in early 2009, the Paris-based Development Research Institute (IRD) estimated that the glaciers in the Cordillera Real mountain range in Bolivia had lost more than 40 per cent of their volume between 1975 and 2006. Thousands of poor

farmers living at high altitudes rely on the water from glaciers for part of their irrigation supply.

**Women**

Women are often hit much harder during disasters. In the cyclone that hit Bangladesh in 1991, the number of women who died was five times greater than the number of men[19]. They had not been taught how to swim and received no prior warning of the event. As a result of the tsunami that hit Sri Lanka (December 2004), much more women perished than men because they did not know how to swim or climb trees.

In southwest Bangladesh, the salinization of potable water sources has meant that many women are forced to walk long distances of up to 10 km every day, just to fetch water.

Droughts in the Philippines are making it increasingly difficult for women to search for food, fuel and water, all of which were previously accessible in towns. In rural areas, women and girls are being forced to walk for hours to fetch water. This makes them more prone to accidents and acts of violence.

After a food crisis, women and children often give up their meals for the men, increasing their susceptibility to malnutrition.

Increasingly unpredictable and extreme weather is hitting harvests and making it harder for the poorest people especially women to provide food for their families. In many developing countries, rural women produce up to 60 percent of household food, and are major producers of the world's staple crops (such as rice, wheat, maize), which provide up to 90 percent of the rural poors' food intake[20]

Climate change is In Sub-Saharan Africa, women represent between 70% and 75% of the agricultural workforce[21]. These women are responsible for as much as 80 per cent of the basic foodstuffs' production for household consumption and sale[22], about 90 percent of the work of processing food crops and providing household water and fuel wood, 80 percent of the work of food storage and transport from farm to village, 90 percent of the work of hoeing and weeding, and 60 percent of the work of harvesting and marketing[23]. In South Asia, for example, agriculture employs over two thirds of the female workforce[24].

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[1] 3 IPCC (2007). pp. 30 and 39. IPCC report that this is 'very likely' due to greenhouse gas forcing.
[2] 3 IPCC (2007). pp. 40.

[3] 1. ODI and Heinrich Böll Stiftung, ClimateFundsUpdate.org (2010) http://www.climatefundsupdate.org/graphs-statistics/areas-of-focus
[4] Lucy's notes
[5] http://www.iata.org/pressroom/pr/Pages/2010-06-07-01.aspx
[6] 1 World Bank (2009) 'The Global Report of the Economics of Adaptation to Climate Change Study', Washington DC: World Bank.
[7] http://www.un.org/wcm/webdav/site/climatechange/shared/Documents/AGF_reports/Work_Stream_2_International_Transport.pdf
[8] Oxfam International (2009) 'Hang Together or Separately: How global co-operation is key to a fair and adequate climate deal at Copenhagen,' (figures updated to include World Bank 2009 estimate of costs of adaptation); and World Bank (2009) *World Development Report 2010: Development and Climate Change*.
[9] 2. Oxfam analysis of GEF data on climate financing through the GEF Trust Funds, and the Least Developed Countries Fund and Special Climate Change Facility
[10] Lucy's notes
[11] 3. National Adaptation Programs of Action (NAPA). 44 NAPAs have been submitted to date. Total costs of NAPAs for LDCs are estimated to be approximately $2 billion, but only $224 million has been pledged (as of June 2010) http://www.thegef.org/gef/LDCF
[12] Euromonitor, trade sources/national statistics
[13] 77 For details of this projection, please see 'Forecasting the numbers of people affected annually by natural disasters up to 2015', available at: http://www.oxfam.org.uk/resources/policy/climate_change/people-affected-by-natural-disasters.html
[14] 74 UNDP/BCPR (2004)
[15] Malla (2008); Oxfam International (2009) 'Even the Himalayas have stopped smiling: Climate change, poverty and adaptation in Nepal'.
[16] 'For the next two decades a warming of about 0.2°C per decade is projected for a range of SRES emissions scenarios. Even if the concentrations of all GHGs and aerosols had been kept constant at year 2000 levels, a further warming of about 0.1°C per decade

would be expected.' 'Continued GHG emissions at or above current rates would cause further warming and induce many changes in the global climate system during the 21st century that would very likely be larger than those observed during the 20th century.' IPCC (2007) p. 45.

[17] 72 ISDR (2009) p.163.

[18] http://www.oxfam.org/fr/campaigns/climatechange/3-faits-sur-afrique

[19] 16 Ahmed *et al.* (2009).

[20] 20 Olubunmi Idowu Yetunde Ajani: "Gender Dimensions of Agriculture, Poverty, Nutrition and Food security". Background Paper No. NSSP 005. IFPRI. 2008. Nigeria.
Or Huston, P. "The 12+12 approach to women" in "Women and the World Economic Crisis", ed. J. Vickers. 1993.

[21] Direnbergen L. "Genre et securité alimentaire: les inegalites face a la faim" in Genre en Action Bulletin, July 2008. OR: FAO. "Rural women and food security: current situation and perspectives" 1998. Rome

[22] FAO-ILO-IUF. 2005. Agricultural Workers and their Contribution to Sustainable Agriculture and Rural Development. Rome: FAO

[23] Oudele Akinloye Akinboade, "Les femmes, la pauvreté et le commerce informel en Afrique orientale et australe", Revue internationale des sciences sociales, n°184, 2005.
Or FAO, "Women and Developing Agriculture" Women in Agriculture Series. No.4 (Rome, 1985)

[24] Ramachandran N (2006) *Women and Food Security in South Asia: Current Issues and Emerging Concerns.* UNI-WIDER Research Paper 131
Or: International Labour Organization (ILO): "Key Indicators of Labour Market" (1999; 2000; 2001) and ILO: "World Labour Report 2000: Income Security and Social Protection in a Changing World" 2000.

27 A More then Ever – Oxfam Cancun Media Briefing

28 media brief we prepared for Oxfam Andes trip and quoting John Vidal story published last week)