



Climate Change Poverty and Disasters.

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Hazards such as droughts, floods and cyclones afflict many regions of the world, but their impact in terms of lives lost and livelihoods disrupted tends to fall most heavily on the poor in developing countries.

The reality is that poor people are already suffering increased variability in their weather systems due to climate change. The number of reported natural disasters has almost trebled from 1,110 during the 1970s to 2,935 between 1993 and 2002. During the same period the numbers of people affected by storms and floods rocketed from 740 million people to 2.5 billion. Similarly the cost of damage increased fivefold to US\$655 billion¹.

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According to *Avoiding Dangerous climate change*, a Department of Environment, Food and Rural Affairs report (UK), an increase in the average global temperature of two degrees Celsius on pre-industrial levels could lead to 80% crop failure in southern Africa², currently 70% of the population are dependent on agriculture as their main source of livelihood.

¹ Red cross world disasters reports 2002/2003

² *Avoiding dangerous climate change*, DEFRA 2006.



At the same two degrees increase in average global temperature:

- Sea level rise due to expansion and ice melt could force 150 million people living in Asia's coastal regions to move.
- 200 million more people could be living in areas prone to malaria and
- 500 million people reliant on Himalayan glaciers for their water supply could find themselves experiencing severe shortages.

The IPCC's 2001 report concluded that temperatures in Africa had risen 0.6% during the last century. The effects of this are twofold: in some wet, tropical regions rainfall is increasing, while in already arid areas there is even less rain. This type of climate change has meant that it is the water supply that is affected first and as agriculture is dependent on rainfall, this change in weather pattern puts huge numbers of predominantly poor people's livelihoods at risk.

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A lack of rain brings drought and that means that people who cannot afford to move or buy water start to die. The drought that gripped the Horn of Africa in 2005 and 2006 and which again confronts the region this year bears this out where more than 11 million lives are estimated to be at risk.

The EU is seriously concerned that climate change will cause a more widespread and permanent shift in food production. It identifies food-deficient



small African countries as particularly vulnerable adding that where fish constitute a significant source of protein for the poor, declining fish stocks due to additional climate change stress may impact on their food security.³ Impact on fish stocks has already been seen in the great African lakes that have provided east Africans with food for thousands of years. These are already feeling the strain because of unsustainable practices, such as introducing foreign species like Nile perch. *Nature* reported in 2003 that lake Tanganyika had seen fish stocks decline by 30% over the past 80 years.⁴ As climate change reduces crop yields and forces people to seek alternative sources of food, this may place more pressure on fish stocks, conversely when people who rely on fish find stocks diminishing they tend to turn to farming in marginal areas with all the problems that entails.

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Paradoxically global warming results in too much water in certain parts of the world. Warmer temperatures are making more water than usual cascade down from the Himalayas. These increased water flows are posing real dangers to the millions of poor people who inhabit the fertile but flood prone riverbanks of Bangladesh. A fifth of the country endures some kind of flooding every year but it is clear that flood damage has become more extreme in the last twenty years. In 1988 and again in 1998, two thirds of Bangladesh was

³ European commission, climate change in the context of development cooperation, 2003.

⁴ Catherine O'Reilly, *Nature*, August 2003, quoted in *Environmental Health perspectives* Vol 113, No. 8 August 2005.



covered with water. During the floods of 2004, 80% of crops were damaged or destroyed and more than 30 million people left homeless.

Bangladesh also faces acute dangers from rising sea levels as most of the country lies less than 10m above sea level and around 17 million people live on land less than a metre higher than the sea. It is not surprising therefore that climate change experts see Bangladesh, one of the most densely populated countries in the world as among the most vulnerable to even small changes in sea levels. The top end of the IPCC's (Intergovernmental panel on climate change) sea-level forecasts predict that rises of between 15 to 95 centimetres would leave a fifth of the country permanently under water and force some 35 million people to abandon their homes and seek shelter inland.

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In June 2005, Pancha Bala saw her home broken apart by the waves. Sand covers the place where the house stood and where she used to sleep is now part of the beach. Pancha, 45, says that when she moved into the bamboo house a quarter of a century ago, the sea was nearly 1km away. Over the years the sea came close and closer till finally the waves took it one night. The waves and rain started at 10 in the morning. That first day the kitchen was washed away and Pancha left with her six children and took refuge with her sister in law further inland. The following day the house was completely gone and the land where it had stood was covered by water. Although Pancha



had only left Kutubdia twice in her life, she decided to move with her children to a slum on the mainland which has become home to around 20,000 people from the island.

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The widespread floods that ravaged Mozambique in 2000 and 2001, killing hundreds, provide a telling example of what such a disaster can do to a country where infrastructure is poor and the people poorer. Heavy rains in January 2000 were followed by tropical cyclone Connie, which dumped record amounts of rain on the capital Maputo and the nation's southern watersheds. A few weeks later another cyclone dropped more rain across the region, submerging an area nearly the size of Belgium and the Netherlands combined. A third of the country's crops were ruined, roads and railways lines were destroyed, entire villages disappeared, and hundreds of thousands of people were made homeless. According to the international federation of Red cross and Red crescent societies, 350,000 lost their jobs, which undermined the livelihoods of 1.5 million people.

Temperature rises in areas that are already hot will have a direct affect on the scarce resources required to sustain life: water, food, crops and livestock. As temperatures increase wells will dry, livestock will die, crops will wither and there will be shortages of food.



In east Africa, a combination of drought and famine brought on by increasingly varied – and generally warmer – temperatures has led to conflict among nomadic pastoralists that already have a history of disputes with each other. One of the prime causes of these conflicts, alongside increased weaponry and traditional economic disputes, is the drying out of wells, making livestock routes unsustainable. Nomads wander further afield with their animals and inevitably intrude into other areas, perhaps with settled populations. The ensuing competition for resources frequently progresses into fighting. Often conflict, drought and famine interact with each other in a terrible, destructive cycle. During the Sudanese drought of 1997, some 100,000 poor people died, the conflict clearly exacerbated the drought and famine because it interrupted lines of supply and hindered emergency provision.

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For example in Kenya, once Sambarwawa had water, it was a place where pastoralists would congregate in times of drought, each group would be allocated a space on the dry riverbed to drill a borehole for water and would bring their animals once every four days to drink. The system had been under extraordinary strain for almost a decade because of drought and by December 2005 some 10,000 herders with 200,000 animals had descended on tiny Sambarwawa, many having travelled over 400km from the epicentre of the drought in the east. Although the village hadn't seen rain for a year, they knew they could still find water under the riverbed but then the boreholes



began to dry up. In December, as the drought intensified, the pressure finally led to killings. As one eye witness recalls 'Gunshots reverberated the whole night, by the time I came down, seven people had died. There were dozens of injuries and animal carcasses littered almost a kilometre stretch of the valley'.

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The number of refugees created by climate change could be set to dwarf the numbers caused by conflict or political and economic necessity. When land becomes uninhabitable because of drought, flood or sea-level rise, people will naturally seek to move to a safer location. This in itself can cause conflict, and if some of the predictions about climate change and the associated weather extremes do come about, the numbers forced to move will be massive.

The Red cross has already identified that 25 million refugees owe their displacement to climate change and some believe this figure is about to get much higher. The IPCC estimate that by 2050, a combination of rising sea levels, erosion and agricultural damage due to climate change could make 150 million people environmental refugees.

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The NGO, CARE, recently conducted research using a Geographical information system mapping approach to explore projected impacts of climate change which intersect with existing patterns of human vulnerability. The report concluded that over the next 20-30 year period we are unlikely to see significant changes in where floods and cyclones occur, however we are likely to see:

- An intensification of the water cycle and a polarisation of rainfall patterns. And
- The intensification of tropical cyclones due to higher sea surface temperature.

During the next 20-30 years we are also unlikely to see significant changes in where droughts occur. However we are likely to see:

- Widespread changes in the amount of annual and seasonal rainfall
- Shifts in the timing of rainfall
- Longer dry periods in many parts of the world
- An increase in the number, intensity and duration of droughts and
- An expansion in areas already affected by drought.

In response to the threat of climate change Christian Aid has incorporated risk reduction strategies into its programming and is working with partners to develop an understanding of the likely outcomes in local areas as a result of climate change. As a result partner organisations and communities are supported to develop local disaster plans which assess the risks and map out



plans for movements of people and livestock to safer areas when a disaster occurs.

In flood and cyclone prone areas, Christian Aid is supporting local communities to construct safe refuges, raise land and houses and build flood defences. While in areas prone to drought Christian Aid and its partners are working with local communities to diversify livelihoods, adopt drought resistant cropping and promote adaptive technology for water conservation and irrigation. Christian Aid aims to ensure that its programmes are designed using reliable climate and environmental information, are based on community assessments and good practice and advocate for good governance for adaptation and risk reduction.

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As a development organisation advocating on the rights of poor people in climate change mitigation and adaptation, we must confront triple crises:

- Poverty is still deeply entrenched. While most developing nations are currently enjoying economic growth, poor people are seeing few of the benefits and their societies are becoming more inequitable.
- Climate change impacts, while non-discriminatory in essence fall disproportionately on poor communities principally by virtue of their poverty. These communities require additional resources to withstand



climate change and for strong mitigation action to prevent impacts which fall beyond the limits of their resilience.

- Necessarily stringent measures to limit greenhouse gas emissions will also limit the extent to which poor people can use the atmosphere in pursuit of their development. This has profound implications for governments aiming to provide jobs and opportunities.

Development groups must continue their focus on the injustice of the impact of climate change as poverty eradication will be rendered impossible by increasingly variable weather. They must also continue to urge cuts commensurate with a sub 2 degree temperature rise but must not ignore the threat to development posed by an agreement that is capable of keeping impacts within manageable parameters. Poor communities are owed compensation not only for the additional cost of climate change adaptation but also for the lost opportunity of atmospheric exploitation in pursuit of their development; the atmospheric global commons is currently choc full of developed nations' emissions.

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Christian Aid believes that decreasing our vulnerability to immediate climate risk is halfway towards adapting to long term and permanent climate change.



Poverty and climate change go hand in hand. A review of floods, disease, drought and conflict shows that climate change affects poor people more than anyone else and exacerbates their poverty. Climate change poses its own dangers as well as insinuating itself around existing problems and amplifying them. That is what makes it such an enemy of the struggle against poverty.