



# A PLANETARY EMERGENCY

## Climate Change is now.

The Earth's climate is destabilizing. Climate change - caused by the emission of heat-trapping greenhouse gases (GHGs), from the historical accumulated pollution of rich industrialised countries - is already harming our food and farms, our oceans and fish, our drinkable water. - It is causing the sea to rise and threatening hundreds of millions of people living in coastal areas. It is leading to the increasing frequency and magnitude of extreme weather events that bring havoc to lives and destruction of homes and livelihoods.

Five million people are predicted to die each year from now until 2020 by causes driven by climate change and an economy based on climate pollution (DARA 2012).

## We are facing a planetary emergency.

We have now had almost 30 straight months –of average temperatures **above** the average of the 20<sup>th</sup> century. **This is unprecedented.**

Temperature rise, in addition its direct impacts, unbalances the rest of the Earth's natural systems like the oceans, weather patterns, forests and the polar regions.

Already the world has experienced 0.8° Celsius in average temperature rise since 1900 and it is expected to rise to 1.5°C by 2060 even if all emissions were to stop today.

The 'action' on climate pollution proposed by governments today runs the risk of setting us on a path to 6°C of global average temperature rise - this could threaten every aspect of life on as we know it.

A 6°C change in temperature is enough to radically change the surface of the planet, collapsing the systems we rely on for life. Mass extinctions of plants and animal species would be certain; the very survival of human communities at risk.

The impacts we are already experiencing and this frightening projected pathway must act as warning bells - calling us to urgently fight together to solve this global crisis.

GLOBAL CAMPAIGN TO  
**DEMAND**  
CLIMATE JUSTICE!

# Present Impacts of current levels of warming

## On food and farms

The disruption of traditional land use and vegetation-patterns is one of the most significant impacts of climate change. This has the potential to decimate crop yields, agricultural production and food supplies globally.

- The number of 'hot days' each year globally has increased 300% since 1900, killing crops and people. (Hansen 2012)
- Crop-yields are being reduced – for example almost 50% of the yield improvement of Brazil's wheat production has been lost to climate change. (Lobell 2011)
- It is estimated that record climate-driven food price hikes in 2008, pushed more than 105 million people into poverty. (World Bank, 2012)
- With 925 million people already suffering from hunger, huge spikes in food prices would be a disaster for the 2.3 billion impoverished people identified as at high risk to fluctuations in food prices.

## On oceans and fish

The trapping of greenhouse gases in the atmosphere leads to larger amounts of carbon dioxide (CO<sub>2</sub>) entering the world's oceans, a process known as "ocean acidification." In addition, higher global temperatures lead to warmer oceans. Both affect marine life, an important source of protein for over a billion people.

- Some oceans are now 30% more acid than the normal level and the ocean is the most acid it has been in the last 20 million years. (Friedrich, 2012)
- Increased ocean acidification threatens ocean habitats like coral reefs, destroying fish stocks and contributing to food shortages.
- The growth-size of fish is being reduced by up to 24% due to increased temperature levels in the oceans. (Cheung, 2012)

## On drinkable water

Higher temperatures melt glaciers which are the source of water for millions of people. Changed weather patterns affect traditional water supplies such as rivers and lakes. These changes put hundreds of millions of people and animals at risk of thirst and water scarcity.

- Many mountain glaciers, which act as source of water and electricity for tens of millions of people, have significantly retreated, particularly in South America and Asia
- The Chacaltaya Glacier in Bolivia has been reduced by 90%. (IPCC, 2007b)
- Changes in rain-fall patterns, due to climate change, are causing even greater water-stress particularly in southern Africa, northern Brazil, southern Europe and the western United States (IPCC 2007a).
- Lake Chad, a water source for 30 million people, is now 5% the size it was in 1963. (UNEP 2008)
- Many of the glacial lakes in the Himalayan region have shown frequency of Glacial Lake Outburst Floods (GLOF) which caused destruction of infrastructure and disruption of water cycles in the downstream river basins. Nepal has been greatly affected by causing scarcity in supply of safe drinking water (GEF, 2012).



# Present Impacts of current levels of warming

## On human health

Changes in weather have an impact on the spread and types of diseases humans suffer. Climate change is playing a role in sparking and spreading these illnesses. In addition, the increased incidence of natural disasters drives disease and is impacting impoverished households in developing countries the most, as they lack access to basic healthcare and sanitation facilities.

- Hot days, hot nights and heatwaves have become more frequent (IPCC, 2007b) and so have the associated short-term increases in mortality.
- Flood-related increases in diarrhoeal disease have been reported in India, Brazil and Bangladesh (IPCC, 2007b).
- Farmers in Australia are at increased risk of suicide due to long periods of drought (Nicholls et. al, 2005).
- Due to increasing temperatures disease-carrying insects such as mosquitoes, can now enter new areas, spreading highly infectious and dangerous diseases (IPCC, 2007b)

## On women

Climate change has differing impacts on sections of society and different genders suffer differently.

- Natural disasters have been shown to result in increased domestic violence against, and post-traumatic stress disorders in, women (Anderson and Manuel, 1994).
- Food shortages due to crop failures or drought impact women in least developed countries the most as women will reduce their own food intake to feed the men and boys in the household. This results in women and female children suffering from micro-nutrient deficiency and acute malnutrition (Lallement, 2009).
- Women and girls in developing countries are often the primary collectors, users and managers of water. Water shortages would jeopardize their families' livelihoods, increase their workloads and result in termination of their education due to a re-allocation of duties (UNDP, 2010).

## On arctic sea-ice and sea level

Increased heat expands water molecules and melts ice, leading to higher sea-levels. Higher sea-levels threaten coastal communities, present a risk of "storm surges" and could flood entire countries in the case of small-islands. 600 million people live less than 10 metres above sea-level and cities such as Mumbai, Shanghai, Manila, Rio de Janeiro, New York and Istanbul, along with 7 others of the 20 biggest cities in the world are situated on the coast and at risk to the impacts of sea-level rise.

- The world has already experience 20 centimeters of sea-level rise
- Today there is 80% less Arctic-sea ice in terms of volume than there was in 1950. (NOAA, 2012)



# Present Impacts of current levels of warming

## On devastating storms and droughts

Climate change and increased heat in the climate system increase the likelihood of droughts occurring, and of flooding and severe rain-storms.

- Globally, the number of category 4 and 5 hurricanes increased by about 75% since 1970, with the largest increases in the North Pacific, Indian and Southwest Pacific Oceans, and the activity is due to rise in tropical sea surface temperature (IPCC, 2007a).
- NASA scientists have shown that the deadly European heatwave of 2003, the fires and drought in Russia in 2010 and catastrophic droughts in the United States can be attributed to climate change. (Hansen, 2012)
- Typhoon Ondoy hit the Philippines in 2009 and dumped what is usually a month worth of rainfall in the country in just six hours. The disaster left a thousand deaths, devastated infrastructures and USD 270million cost of damages (NSCB, 2009). The country was again hit by similar extreme weather events in 2010 and 2012.
- Pakistan has experienced the wrath of extreme weather events in the past three years. In 2010, it was hit by the worst floods of its history brought about by heavy monsoon rains. This disaster took more than 1,700 lives. (German Watch, 2011) In 2012, , heavier downpour damaged 392,787 houses; 2 million people were displaced and approximately 1.7 million estimated in be in temporary settlements (UN HABITAT, 2012).

## On economies

The cumulative result of climate impacts threatens to exacerbate and perpetuate the condition of poverty in which billions of marginalized and vulnerable people already live. The damage to our food, our water, and our lives is underscored by the overall damage climate impacts cause to our economies. Disasters destroy infrastructure and divert resources. Increased heat has reduced growth in poor countries (Dell, 2012)

- Climate change and an economy based on climate-pollution caused \$1.2 trillion in losses in 2010 (DARA 2012)
- Extreme weather events driven by climate change cost \$19 billion in developing countries alone in 2010 (DARA 12)



## PROJECTED IMPACTS

### Food

- A 22% decline in maize crop in Africa by 2050 is predicted with similar dire warnings for other staple crops. (Schlenker 2010)
- Experts predict the price of maize, wheat and rice will all at least double by 2030. (Carty, 2012)

### Oceans

- Oceans with fewer and smaller fish would represent a severe food crisis for the 1 billion people who rely on fish and seafood as their primary source of protein. (Sugiyama, 2004)

### Water

- Nearly 1.4 billion people live in water-stressed areas today and this number could increase to 3 billion by 2025 under current projections (Arnell 2004)

### Health

- Malnutrition, vector-borne diseases (such as malaria) and diarrhoeal diseases have all been projected to increase in prevalence due to climate change (IPCC 2007b).

### Devastating storms and drought

- Much of the Western Hemisphere, along with large parts of Eurasia and Africa may be under threat of extreme drought this century, with significant drying also predicted in much of Latin America (including large parts of Mexico and Brazil), around the Mediterranean region, Southwest Asia and western and southern Africa (Dai, 2010).

### Arctic sea-ice and sea level

- Scientists are now predicting that in the summer of 2016, just four years away, the Arctic may be completely ice-free (Vidal 2012)
- The historical record suggests that if the average global temperature is 2°Celsius higher we could see as much as 25 metres of sea-level rise in the future. (Archer 2008)

### Economy

- Climate change losses are estimated to be \$4 trillion annually for developing countries alone in 2030 (DARA 2012).

# Mobilize for the planetary emergency!

The planet is in a crisis. We know this from experience; and we know this from what science is telling us.

Addressing the climate crisis requires profound social transformation in all countries and at all levels – local, national and global. It requires a rapid shift to systems of production and consumption that are compatible with the limits of the planet and aimed at meeting the needs of people rather than the relentless pursuit of profit. It requires immediate action by those responsible for climate change to make deep cuts in their greenhouse gas emissions and to stop false solutions such as offsets and carbon trading, and to mobilize finance and technology for peoples and countries most affected by climate change.

These will not happen without massive mobilization of people everywhere south and north. What we have done thus far have fallen short of overcoming the persistent refusal by powerful elites, corporations and governments to meet their responsibility and obligations and their efforts to stand in the way of social change.

We need to step up our efforts to build and exercise the power of collective action, in different forms at various fronts and arenas, at a scale never seen before. We need to build our capacity for globally coordinated mobilizations during critical political moments -- progressively increasing the number of people mobilized, expanding the numbers of countries and cities participating, raising the scale, intensity and boldness of our actions, developing our strength and power to prevent planetary catastrophe.

**Let us begin now!**

## Our Demands

- Limiting of temperature rise to well **below 1.5° C** and **bring it down to 1° C as fast as possible**; An international climate architecture that is rooted in **science, equity and justice**; Deep and drastic emissions reductions by rich industrialized countries without offsets – in fulfillment of their legally binding commitments and in line with their fair share of the global carbon budget that takes into account historical per capita emissions; The US to commit to comparable targets, based on its historical responsibility; Removal of offsets and other loopholes
- **Stopping the pursuit of false solutions** such as carbon trading, market-based approaches to forests, soil and water, large-scale geo-engineering and techno-fixes, nuclear energy, mega hydro dams, agro-fuels, “clean coal”
- Delivery of **adequate and appropriate climate finance** on the basis of rich, industrialized countries’ responsibility for climate change and their corresponding obligation to cover the full costs of enabling peoples of developing countries and other affected communities to deal with the impacts of climate change (including past, present & future loss and damage) as well as the costs of shifting to equitable, post carbon sustainable systems; A global climate fund that is **democratic, accountable, independent of other international financial institutions**, upholds the principles of equitable and direct access and country-determined, participatory decisions on the use of funds
- **Appropriate technology transfers** without intellectual property barriers. Developed countries must ensure free sharing of safe, appropriate and ecologically and socially sound technologies; Advance the transformation to equitable, democratic, post-carbon systems.
- Decisive steps towards the **profound transformation of the system based on equity, science and the rights of peoples** to live well in harmony with and respect for Mother Earth -- Transformation of social and economic structures and technologies and re-orient policies to move away from profit-driven, growth oriented, high-carbon, elite-dominated exploitative systems; Just transition to people-driven, equitable, and democratic post carbon sustainable development.

# References

- Anderson, Karen M. and Manuel Gerdenio (1994). *Gender Differences in Reported Stress Response to Loma Prieta Earthquake*. *Sex Roles* Vol. 30, No. 9-10, pp. 725-733.
- Arnell, Nigel, (2004) *Climatechange and global water resources: SRES emissions and socio-economic scenarios*, *Global Environmental Change* Volume 14, Issue 1, April 2004.
- Archer, David (2008) *Global Warming in Geologic Time*, Fermi National Labs, Feb 27, 2008.
- Carty, Tracy, *Extreme Weather, Extreme Prices: The costs of feeding a warming world* (Oxfam International) Policy Paper, September 2012.
- Cheung, William W. L. et al, *Shrinking of fishes exacerbates impacts of global ocean changes on marine ecosystems*, *Nature Climate Change*, 30 September, (2012)
- Dai, A., Trenberth, K., and Qian, T. 2004. A Global Dataset of Palmer Drought Severity Index for 1870-2002: Relationship with Soil Moisture and Effects of Surface Warming *Journal of Hydrometeorology*. (5). 1117- 1130.
- Melissa Dell, Benjamin F. Jones, and Benjamin A. Olken, "Temperature Shocks and Economic Growth: Evidence from the Last Half Century" *American Economic Journal: Macroeconomics* 2012, 4(3): 66–95
- Friedrich T., A. Timmermann, A. Abe-Ouchi, N.R. Bates, M.O. Chikamoto, M.J. Church, J.E. Dore,
- D.K. Gledhill, M. González-Dávila, M. Heinemann, T. Ilyina, J.H. Jungclaus, E. McLeod, A. Mouchet, and J.M. Santana-Casiano. (2012). *Detecting regional anthropogenic trends in ocean acidification against natural variability*. *Nature Climate Change* 2, 167–171.
- Dai, Aiguo (2010). *Climate Change: Drought may threaten much of the Globe within decades*. *Wiley Interdisciplinary Reviews: Climate Change*, October 19, 2010.
- DARA (2012). *Climate Vulnerability Monitor 2012: A Guide to the Cold Calculus of a Hot Planet*. *Climate Vulnerable Forum*, 2010, Accessed at [<http://daraint.org/climate-vulnerability-monitor/climate-vulnerability-monitor-2010/download-the-report/>].
- EPA (2012), *International Impacts and Adaptation*, Website of the Environmental Protection Agency of the Government of the United States.
- Hansen, J et al, *Perception of climate change*, *PNAS* September 11, 2012 vol. 109 no. 37 E2415-E2423
- Harmeling, S. (2011), *Global Climate Risk Index 2012 – Who Suffers Most from Extreme Weather Events?*, GermanWatch, November 2011.
- IPCC Technical Paper VI - June (2008), *Climate Change and Water*, (Bates, B.C., Z.W. Kundzewicz, S. Wu and J.P. Palutikof, Eds.) IPCC Secretariat, Geneva, IPCC (2007a). *Climate Change 2007: Working Group I: The Physical Science Basis*. IPCC (2007b). *Climate Change 2007: Working Group II: Impacts, Adaptation and Vulnerability*.
- Lallement, Dominique (2009). *Energy Options for Livelihood Needs of the Poor and Women*. *EnergiaNews*, July 2009. Accessed at [[http://www.energia.org/fileadmin/files/media/en-072009\\_lallement.pdf](http://www.energia.org/fileadmin/files/media/en-072009_lallement.pdf)]
- Lobell D.B., W. Schlenker, and J. Costa-Roberts. (2011). *Climate Trends and Global Crop Production Since 1980*. *Science* 333, 616–620.
- Nicholls, Neville, Butler, Colin D., and Hanigan, Ivan (2005). *Inter-annual rainfall variations and suicide in New South Wales, Australia, 1964-2001*. *International Journal of Biometeorology*, Vol. 50, No. 3 (2006), pp. 139-143.
- NOAA 2012, *State of the Climate Global Snow & Ice*, September 2012 National Oceanic and Atmospheric Administration National Climatic Data Center.
- Ortiz-Montemayor, C. (2012). *Nepal's fight against deadly threat of Himalayan meltdown: Community Adaptation in Action*. *The Green Line*, January 2012. Accessed at [<http://www.thegef.org/gef/greenline/january-2012/nepal-fight-himalayan-meltdown->]
- Schlenker W., and D.B. Lobell. (2010). *Robust negative impacts of climate change on African agriculture*. *Environmental Research Letters* 5, 014010
- Sugiyama, Shunji et al, *Status and potential of fisheries and aquaculture in Asia and the Pacific*, FAO, Bangkok, 2004.
- World Bank, *Global Monitoring Report*, 2012.
- UNDP (2010). *Gender, Climate Change and Community-Based Adaptation*. A Guidebook for designing and implementing gender-sensitive community-based adaptation programmes and projects. UNDP, July 2010, New York.
- UNEP (2008), *Vital Water Graphics - An Overview of the State of the World's Fresh and Marine Waters*. 2nd Edition. UNEP, Nairobi, Kenya
- UNISDR (2012), *Reducing Vulnerability and Exposure to Disasters – Asia Pacific Disaster Report 2012*. UNISDR and UN ESCAP, Bangkok, Thailand.
- Vidal, John (2012), *Arctic expert predicts final collapse of sea ice within four years*, *The Guardian*, 17 September 2012.
- Virola, R. (2009), *The Devastation of Ondoy and Pepeng*, National Statistical Coordination Board, November 2009. Accessed at [[http://www.nscb.gov.ph/headlines/StatsSpeak/2009/110909\\_rav\\_mrsr\\_typhoon.asp](http://www.nscb.gov.ph/headlines/StatsSpeak/2009/110909_rav_mrsr_typhoon.asp)]
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