# Climate change and health country profiles, in support of the UNFCCC negotiations

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**Department of Public Health, Environmental and Social Determinants of Health**

World Health Organization

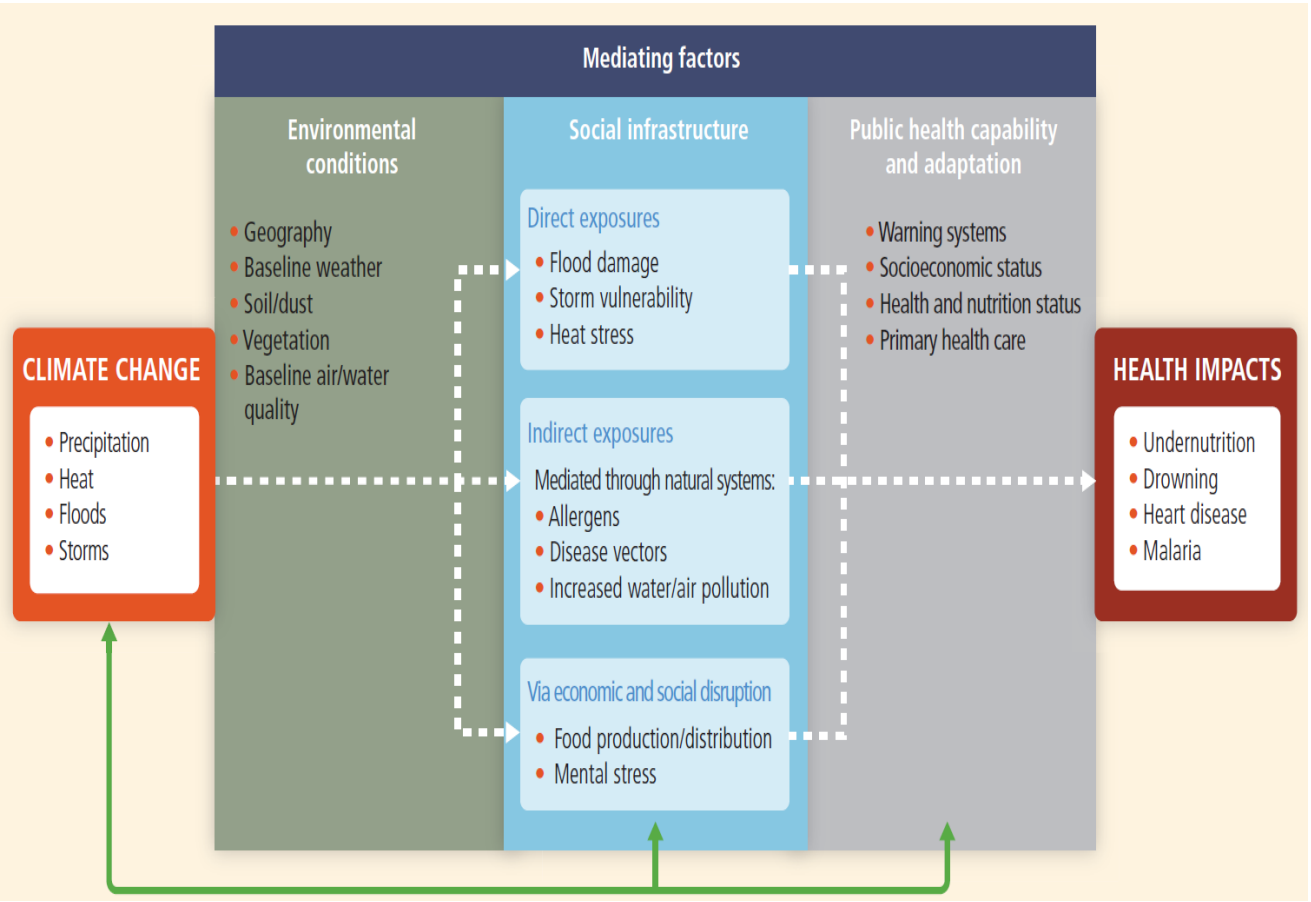
"*The defining issue for public health during this century*"

WHO Director-General, Dr. Margaret Chan, December 2007



World Health Organization

# Health risks from climate change




**Each year:**

- Extreme weather events kill tens of thousands
- Malaria kills over 600,000
- Diarrhoea kills almost 600,000 children
- Undernutrition kills 3.1 million

**All are highly sensitive to climate conditions**



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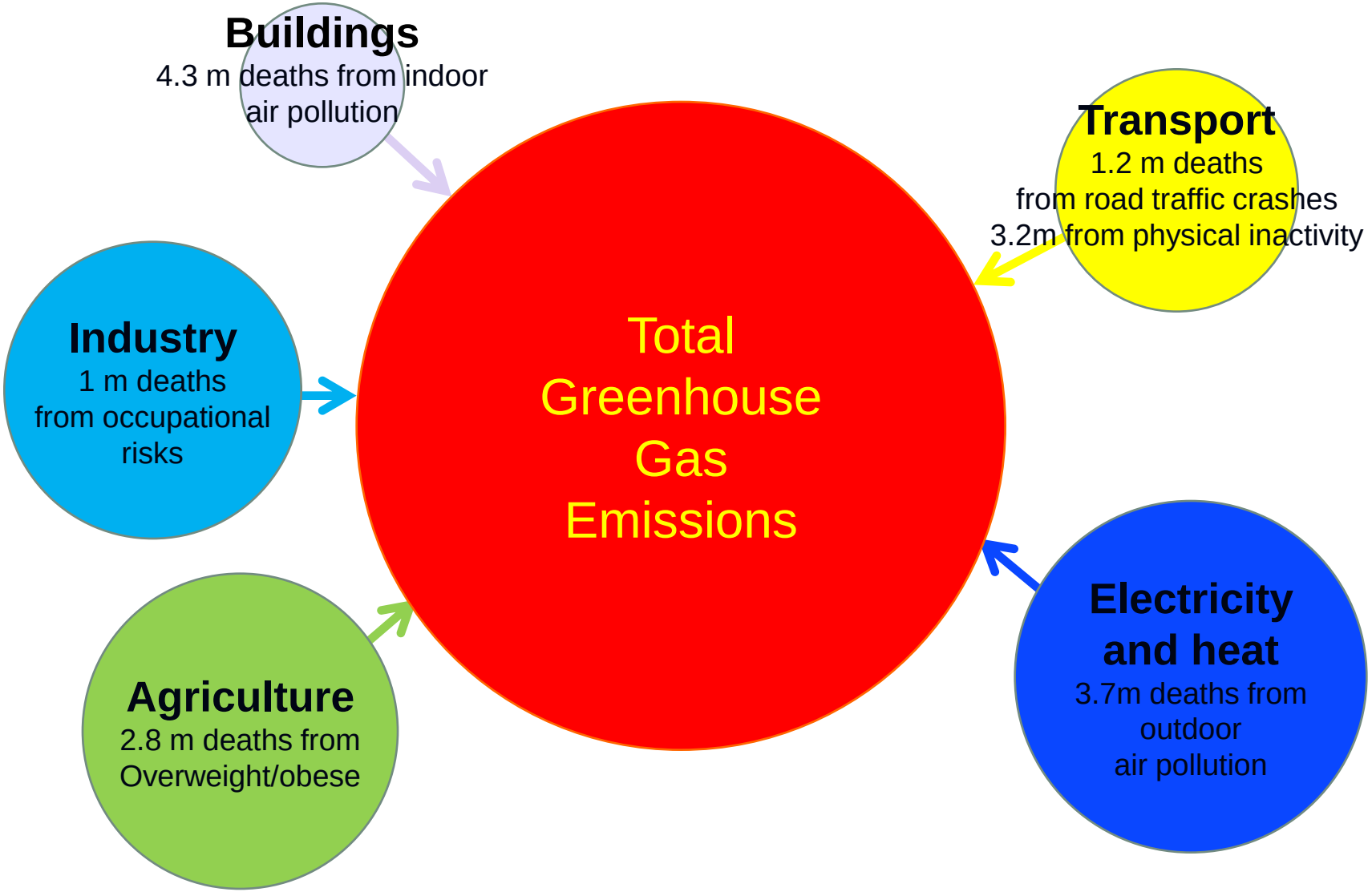
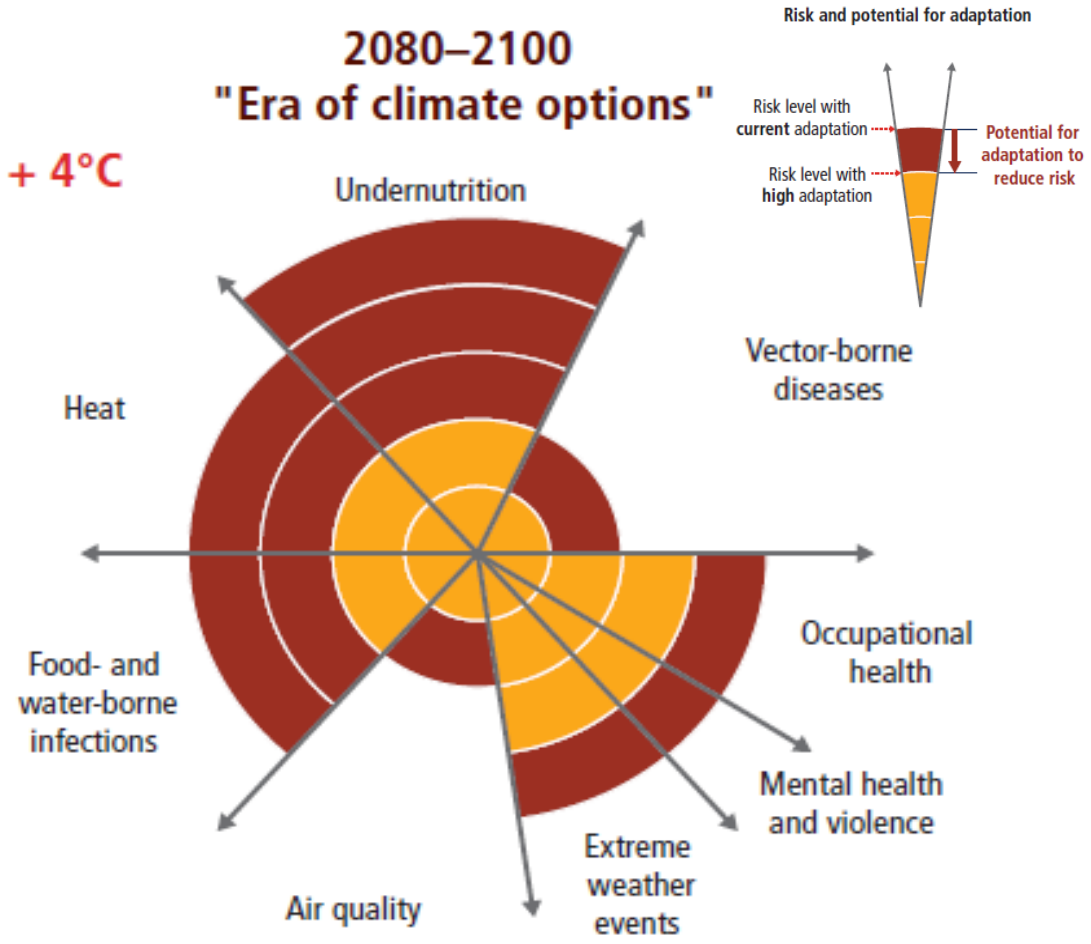
# Health impacts of the causes of climate change




Circle size proportional to GHG emissions in 2010 (tonnes $CO_2$ equivalent).
Changes proportional to projections of changes by 2050. *All data from IPCC, 2014.*

# Convenient Truth 1: Primary prevention can minimize climate risks to health




We have proven, cost-effective interventions against every climate-sensitive health impact

All of these can save lives now, and reduce vulnerability to climate change

**Strengthening of preventive public health functions, including climate resilience, is the best protection for the future**



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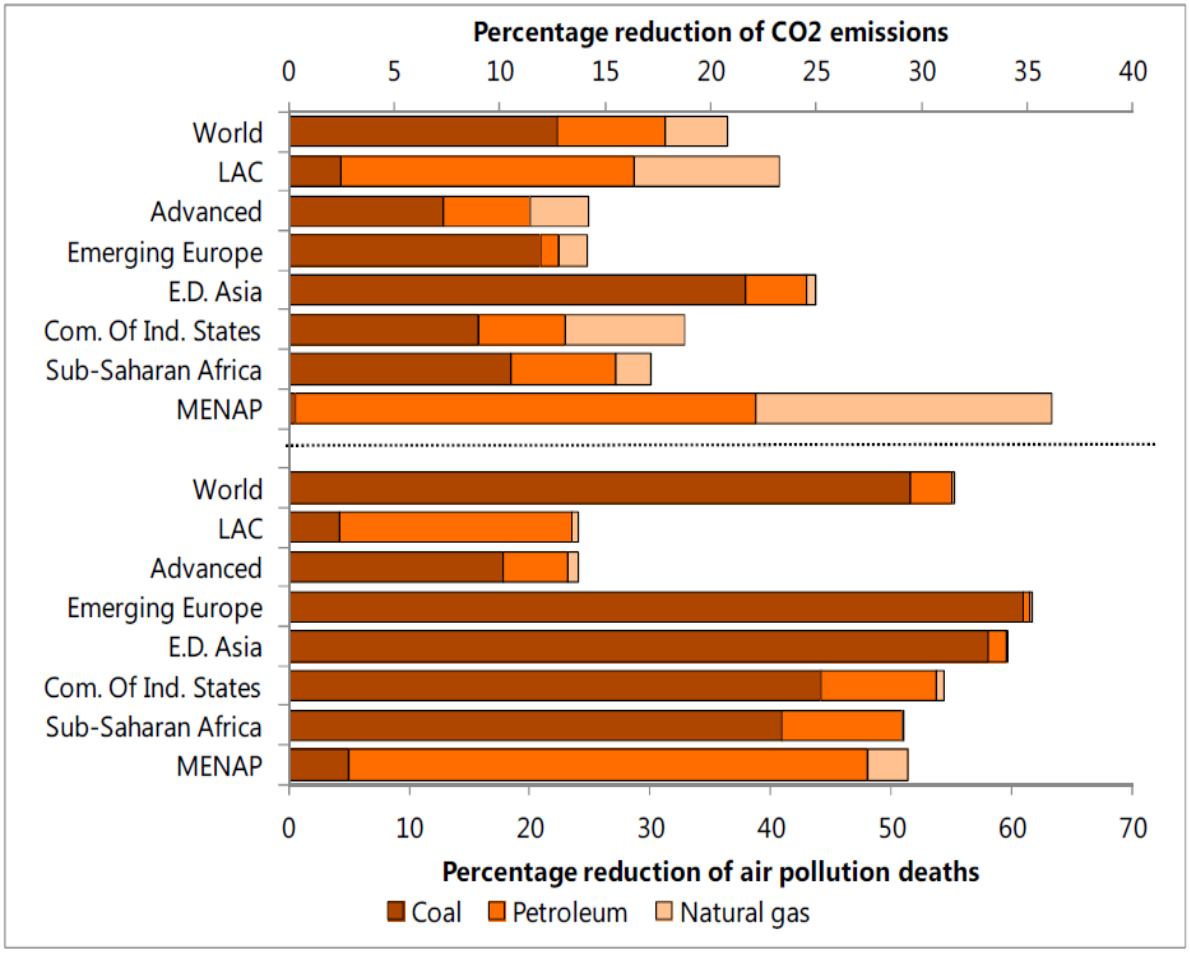
# Convenient Truth 2:
# It pays to include health in climate policy




US $5.3 trillion/yr in "energy subsidies", approx. 50% is unpaid health bill from air pollution

Pricing carbon in line with health impacts would cut ~ 50% of AP deaths, ~ 20% of $CO_2$ emissions, and generate ~ 3% of GDP in tax revenues

IMF, 2015



World Health Organization

# Convenient Truth 3:Key players are making the climate-health connection

**US President Barack Obama at children's asthma ward, during launch of US national climate plan, May 2014.**

- The same regulations can address climate as well as health-threatening pollutants
- E.g. - the legal instrument for regulating US greenhouse gas emissions is based on evidence that they endanger public health

# Climate change and health: Quick history

# Early 1990s:
# Health as one of three pillars of climate policy

United Nations Framework Convention on Climate Change

Principle 1 of the 1992 UNFCCC – Avoiding adverse effects of climate change

*"Adverse effects of climate change"*

- changes in the physical environment or biota resulting from climate change which have significant deleterious effects on the composition, resilience or productivity of natural and managed ecosystems or on the operation of socio-economic systems or on human health and welfare.



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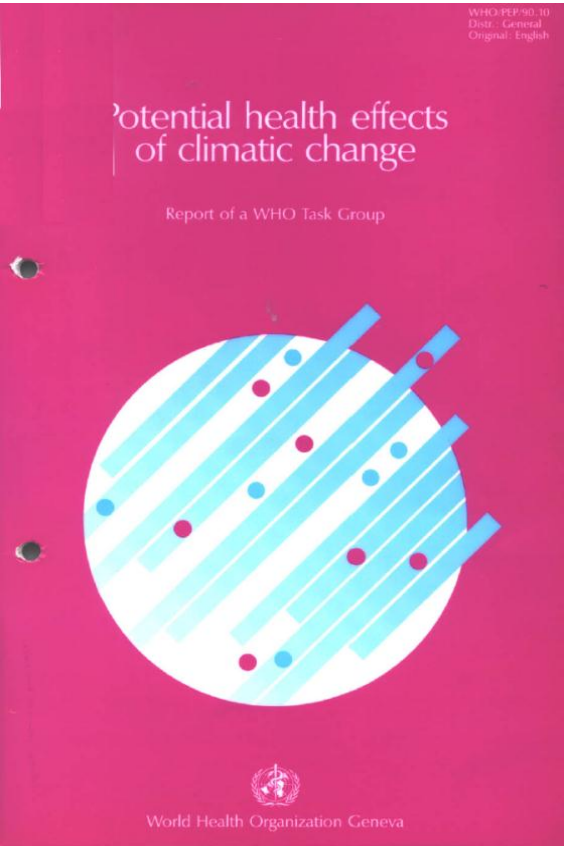
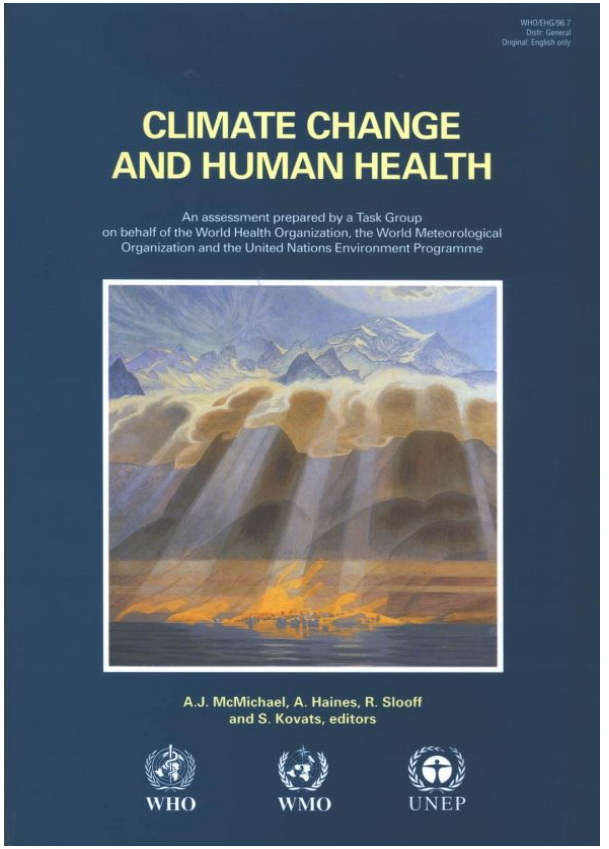
# 1990s: First steps in climate change and health science




First IPCC report (1990) has just a few lines on health:

**But**

WHO publishes its first climate change-health assessment, and programmes from late 1990s.



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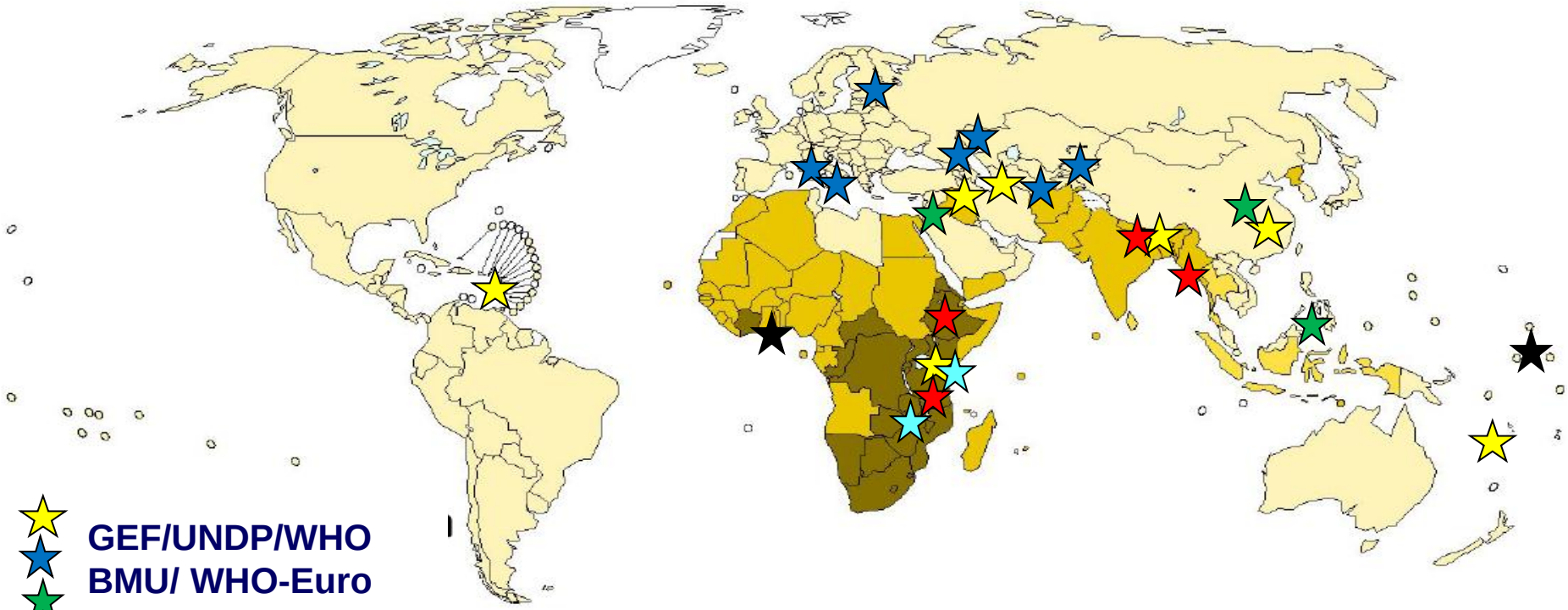
# 2000s: Climate change placed high on the health agenda

- 2007: Identified by WHO DG as a top priority
- 2008: Selected as theme for World Health Day
- 2008: WHA resolution
- 2009: WHO workplan approved by Executive Board
- 2015: New workplan covering (i) partnerships, (ii) awareness raising, (iii) evidence, (iv) public health response

*"With impoverished populations in the developing world the first and hardest hit, climate change is very likely to increase the number of preventable deaths. The gaps in health outcomes we are trying so hard to address right now may grow even greater. This is unacceptable."*

# 2010s: Scale up of Implementation



GEF/UNDP/WHO
BMU/ WHO-Euro
MDG-F/ WHO
GEF/ UNDP
DFID/ WHO
Norway/WMO/WHO/WFP/IFRC

**Adaptation projects of > US$500,000**



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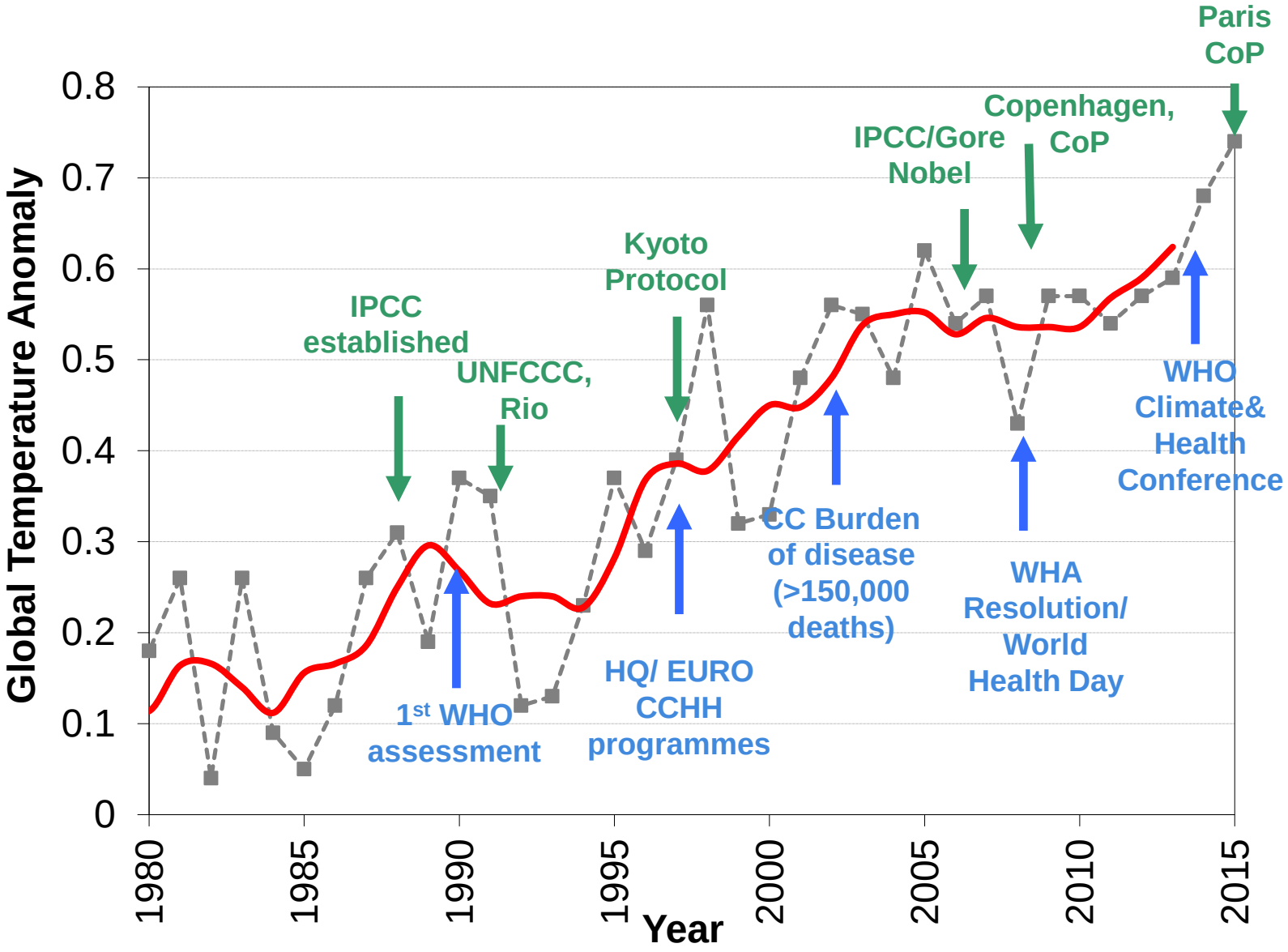
# Health and climate change – key dates



# Inconvenient truths for health in climate policy

1) How many times was health mentioned in the 200 page draft agreement proposed in Copenhagen?

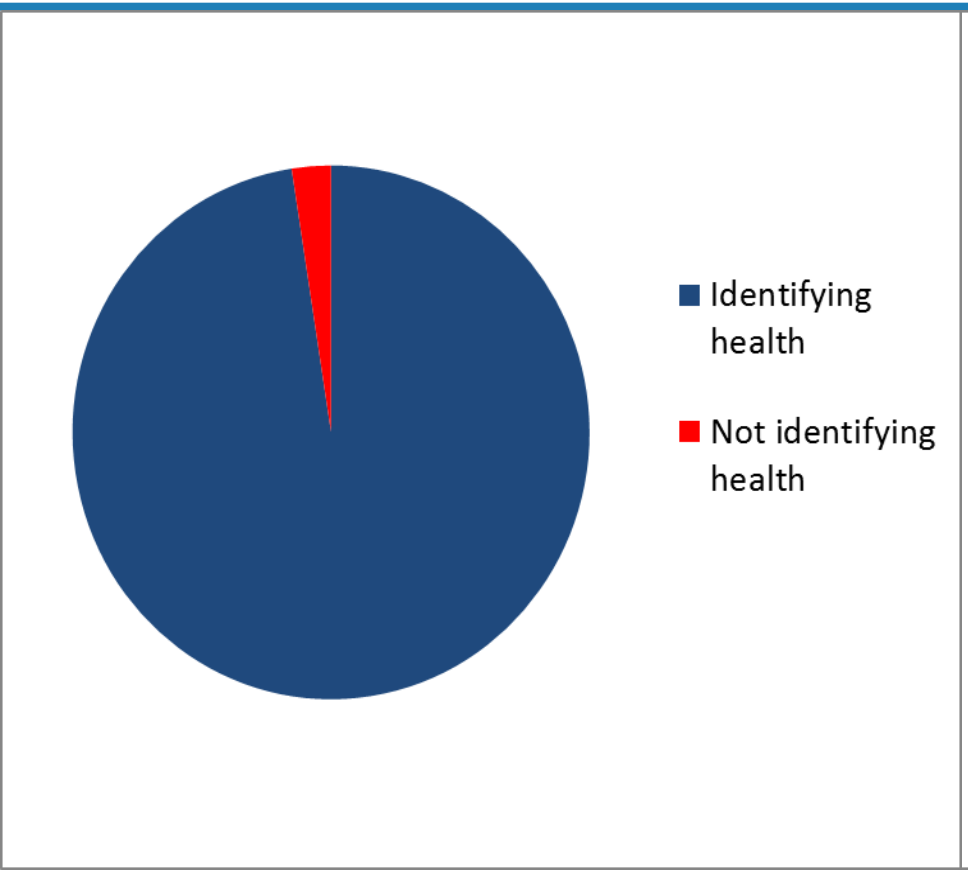
2) How many of the 323 side events focussed on health?

1

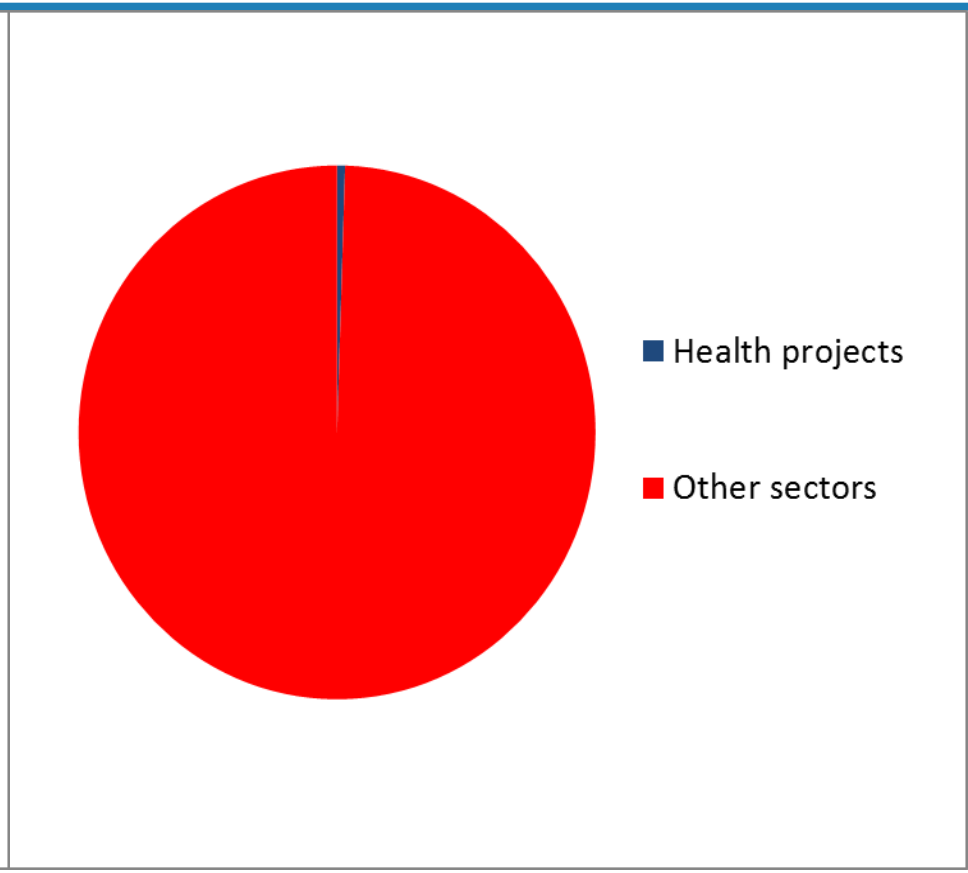
3) What percentage of global climate funds have been allocated to health projects?

4) Of the 13 main economic models to inform climate mitigation decisions, how many incorporate health co-benefits?

# Inconvenient truths for health in climate financing




Least Developed Countries identifying health as an adaptation priority




Funds awarded through the Least Developed Countries Fund

# The future: We need to put health at the centre of the Paris Climate Agreement

↓$CO_2$
↓Air pollution

↓ Cardiovascular diseases

–Physical activity

↓ Obesity
↓ Depression


↓ Injuries

↓ Infrastructure costs

↑ **Social capital**



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# Opportunities for COP21

# Strengthening the engagement of the health community in climate change



Conference on Health & Climate
27th – 29th August 2014

**Committed to**:
- Strengthen collaboration

-Produce "country profiles" on climate change and health linkages



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# WHO calls for urgent action to protect health from #climatechange at #COP21


**We call** for a climate change agreement that promotes:

- Strong and effective action to limit climate change, and avoid unacceptable risks to global health.
- Scaling up of financing for adaptation to climate change….
- Actions that both reduce climate change and improve health….

**We commit to** leading by example, by:

- Raising awareness of the health effects of climate change and the potential health co-benefits of low carbon pathways..
- Contributing to the development and implementation of measures to limit climate change and protect our countries, workplaces, and communities.
- Working to minimize the environmental impacts of our own health systems, while improving health services.



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# Country Profiles: Evidence to empower the health community





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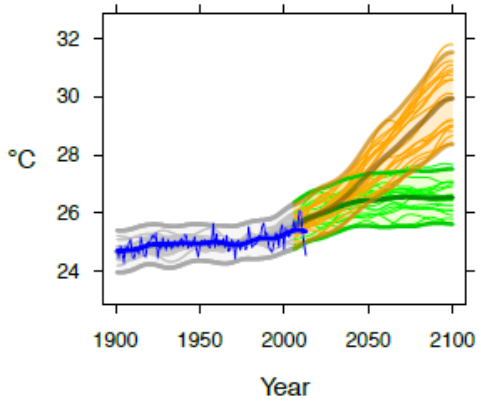
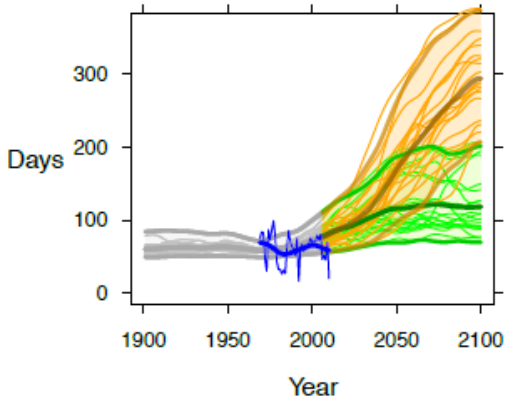
# 1 CURRENT AND FUTURE CLIMATE HAZARDS

## MEAN ANNUAL TEMPERATURE



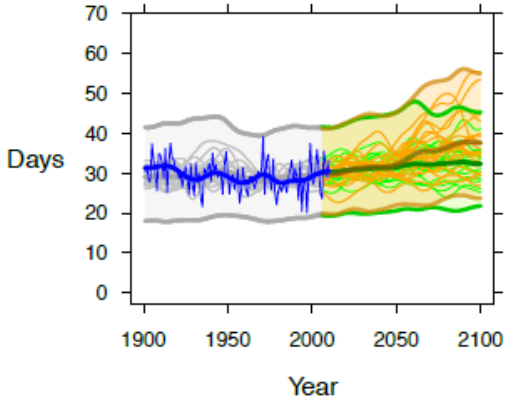

Under a high emissions scenario, mean annual temperature is projected to rise by about 4.8°C on average from 1990 to 2100. If emissions decrease rapidly, the temperature rise is limited to about 1.4°C.

## DAYS OF WARM SPELL ('HEAT WAVES')

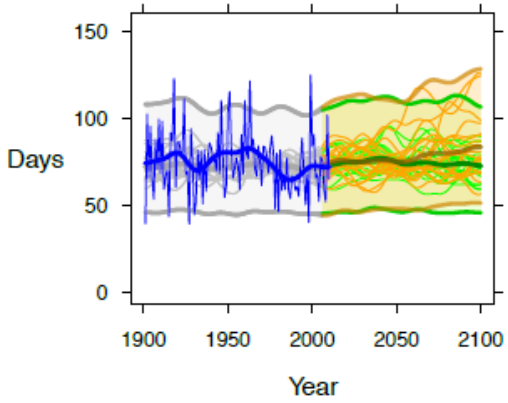



Under a high emissions scenario, the number of days of warm spell[d] is projected to increase from about 60 days in 1990 to almost 300 days on average in 2100. If emissions decrease rapidly, warm spell days are limited to about 120 on average.

## DAYS WITH EXTREME RAINFALL ('FLOOD RISK')




## CONSECUTIVE DRY DAYS ('DROUGHT')



# 2 CURRENT AND FUTURE HEALTH RISKS DUE TO CLIMATE CHANGE

## EXPOSURE TO FLOODING DUE TO SEA LEVEL RISE

Severity of climate change scenario →

| | Without Adaptation | With Adaptation |
|---|---|---|
| RCP2.6 | 2,598,400 | 14,100 |
| RCP8.5 | 7,226,600 | 21,600 |

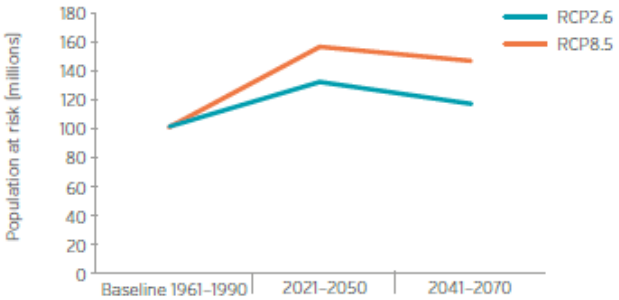
* Medium ice melting scenario ** Values rounded to nearest '00

Under a high emissions scenario, and without large investments in adaptation, an annual average of 7.2 million people are projected to be affected by flooding due to sea level rise between 2070 and 2100. If emissions decrease rapidly and there is a major scale up in protection (i.e. continued construction/raising of dikes) the annual affected population could be limited to about 14,100 people. Adaptation alone will not offer sufficient protection, as sea level rise is a long-term process, with high emissions scenarios bringing increasing impacts well beyond the end of the century.

Source: Human dynamics of climate change, technical report, Met Office, HM Government, UK, 2014.

## INFECTIOUS AND VECTOR-BORNE DISEASES

**Population at risk of malaria in Bangladesh (in millions)**




By 2070, over 147 million people are projected to be at risk of malaria assuming a high emissions scenario. If emissions

### KEY IMPLICATIONS FOR HEALTH

Bangladesh also faces inland river flood risk due to climate change. Under a high emissions scenario, it is projected that by 2030, 4.2 million additional people may be at risk of river floods annually due to climate change and 2.2 million due to socio-economic change above the estimated 3.5 million annually affected population in 2010.[a]

In addition to deaths from drowning, flooding causes extensive indirect health effects, including impacts on food production, water provision, ecosystem disruption, infectious disease outbreak and vector distribution. Longer term effects of flooding may include post-traumatic stress and population displacement.

### KEY IMPLICATIONS FOR HEALTH

Some of the worlds most virulent infections are also highly sensitive to climate: temperature, precipitation and humidity have a strong influence on the life-cycles of the vectors and the infectious agents they carry and influence the transmission of water and food-borne diseases.[b]

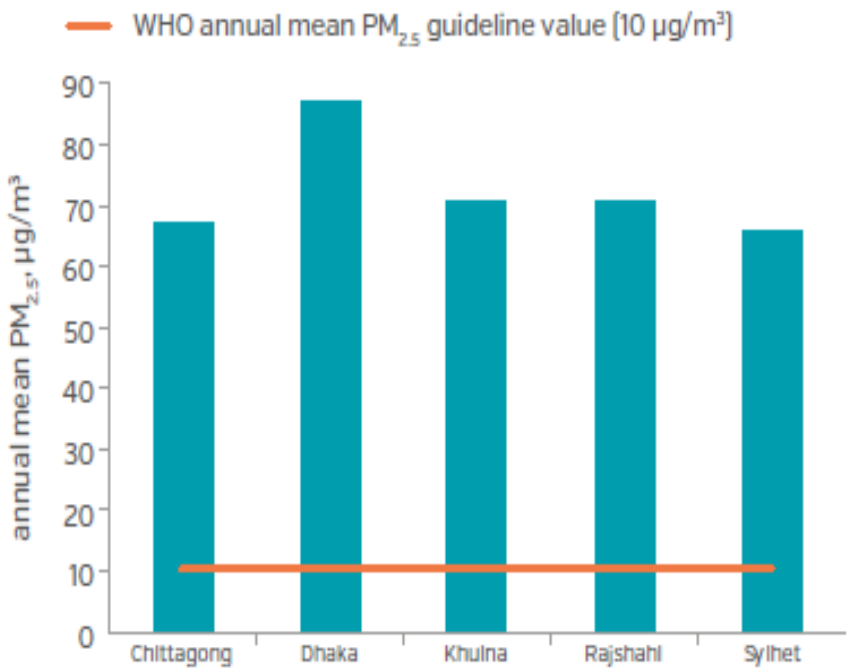
Socioeconomic development and health interventions are driving down burdens of several infectious diseases, and these projections assume that this will continue. However, climate conditions are projected to become significantly more favourable for transmission, slowing progress in reducing burdens, and increasing the populations at risk if control measures are not maintained or strengthened.[c]

For example, in the baseline year of 2008 there were an estimated 25,500 diarrhoeal deaths in children under 15 years old. Under a high emissions scenario, diarrhoeal deaths attributable to climate change in children under 15 years old are projected to be about 8.5% of the over 4,000 diarrhoeal deaths projected in 2030. Although diarrhoeal deaths are projected to decline to just under 900 by 2050 the proportion of deaths attributable to climate change could rise to about 13.2% (Source: Lloyd, S., 2015).[d]

# 3 CURRENT EXPOSURES AND HEALTH RISKS DUE TO AIR POLLUTION

## OUTDOOR AIR POLLUTION EXPOSURE

**Outdoor air pollution in cities in Bangladesh annual mean $PM_{2.5}$ (µg/m³) 2013**




## HOUSEHOLD AIR POLLUTION

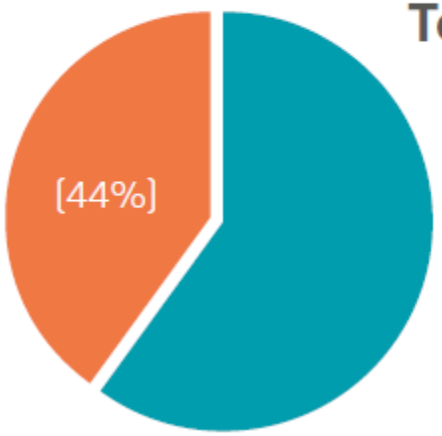
Percentage of population primarily using solid fuels for cooking (%), 2013

RURAL AREAS **>95**

URBAN AREAS **59**

NATIONAL TOTAL **89**

Percent of total deaths from ischaemic heart disease, stroke, lung cancer, chronic obstructive pulmonary disease (18 years +) and acute lower respiratory infections (under 5 years) attributable to household air pollution, 2012



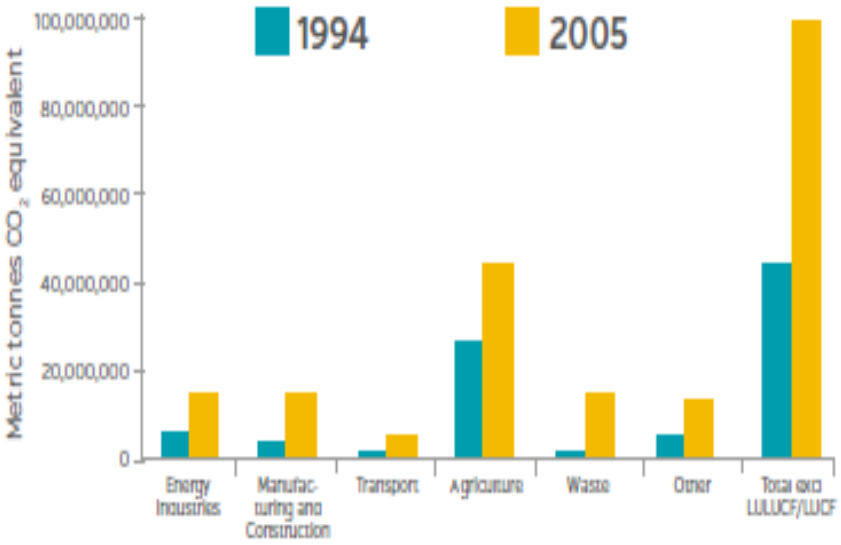

**Total Deaths:** 192,400

Attributable to household air pollution

# 4 CO-BENEFITS TO HEALTH FROM CLIMATE CHANGE MITIGATION

# 5 EMISSIONS AND COMMITMENTS

## BANGLADESH ANNUAL GREENHOUSE GAS EMISSIONS
(metric tonnes $CO_2$ equivalent)




**NATIONAL RESPONSE[d]**

| | |
|---|---|
| 1992 | BANGLADESH SIGNED THE UNFCCC |
| 2001 | BANGLADESH RATIFIED THE KYOTO PROTOCOL |
| 2005 | BANGLADESH NATIONAL ADAPTATION PLAN |
| 2009 | BANGLADESH CLIMATE CHANGE STRATEGY AND ACTION PLAN |
| 2010 | BANGLADESH CLIMATE CHANGE TRUST FUND ACT |

# 6 NATIONAL POLICY RESPONSE

| | |
|---|---|
| **GOVERNANCE AND POLICY** | |
| Country has identified a national focal point for climate change in the Ministry of Health | ✓ |
| Country has a national health adaptation strategy approved by relevant government body | ✓ |
| The National Communication submitted to UNFCCC includes health implications of climate change mitigation policies | ✓ |
| **HEALTH ADAPTATION IMPLEMENTATION** | |
| Country is currently implementing projects or programmes on health adaptation to climate change | ✓ |
| Country has implemented actions to build institutional and technical capacities to work on climate change and health | ✓ |
| Country has conducted a national assessment of climate change impacts, vulnerability and adaptation for health | ✓ |
| Country has climate information included in Integrated Disease Surveillance and Response (IDSR) system, including development of early warning and response systems for climate-sensitive health risks | ✗ |
| Country has implemented activities to increase climate resilience of health infrastructure | ✗ |
| **FINANCING AND COSTING MECHANISMS** | |
| Estimated costs to implement health resilience to climate change included in planned allocations from domestic funds in the last financial biennium | ✗ |
| Estimated costs to implement health resilience to climate change included in planned allocations from international funds in the last financial biennium | ✗ |
| **HEALTH BENEFITS FROM CLIMATE CHANGE MITIGATION** | |
| The national strategy for climate change mitigation includes consideration of the health implications (health risks or co-benefits) of climate change mitigation actions | ✓ |
| Country has conducted valuation of co-benefits of health implications of climate mitigation policies | ✗ |

# CONTRIBUTIONS

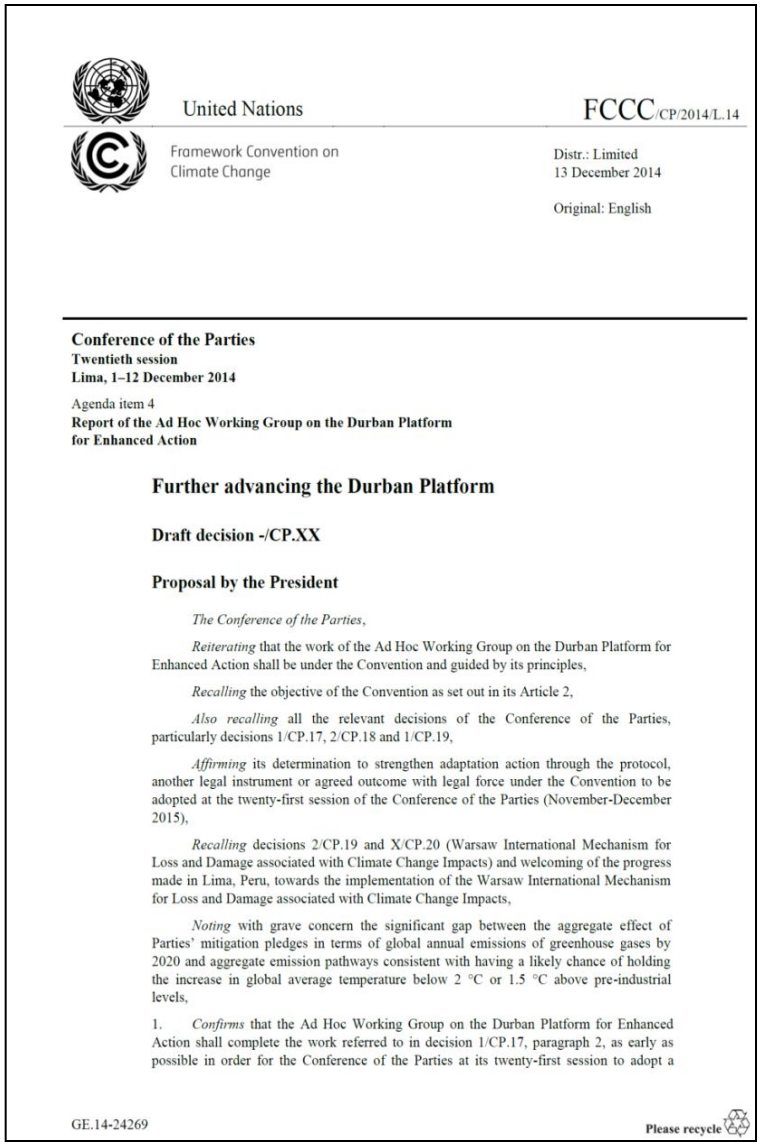
Steering group and technical contributors comprised of:

- WHO
- UNFCCC Secretariat
- Wellcome Trust
- CDP (Carbon Disclosure Project)
- University of East Anglia
- London School of Hygiene and Tropical Medicine
- University of Wisconsin-Madison
- World Meteorological Organization
- World Bank

# Next steps

- Expand set of profiles and use for systematic support to countries in monitoring progress at least until 2020
- Maintain and strengthen health representation in UNFCCC agreement
- Support national Ministries of Health to scale up health resilience and implement "Health in all (Climate) Policies" within post - 2015 Sustainable Development Agenda

# Maintain and strengthen health in the climate negotiations



United Nations

Framework Convention on Climate Change

FCCC/CP/2014/L.14

Distr.: Limited
13 December 2014

Original: English

**Conference of the Parties**
**Twentieth session**
**Lima, 1–12 December 2014**

Agenda item 4
**Report of the Ad Hoc Working Group on the Durban Platform for Enhanced Action**

**Further advancing the Durban Platform**

**Draft decision -/CP.XX**

**Proposal by the President**

*The Conference of the Parties*,

*Reiterating* that the work of the Ad Hoc Working Group on the Durban Platform for Enhanced Action shall be under the Convention and guided by its principles,

*Recalling* the objective of the Convention as set out in its Article 2,

*Also recalling* all the relevant decisions of the Conference of the Parties, particularly decisions 1/CP.17, 2/CP.18 and 1/CP.19,

*Affirming* its determination to strengthen adaptation action through the protocol, another legal instrument or agreed outcome with legal force under the Convention to be adopted at the twenty-first session of the Conference of the Parties (November-December 2015),

*Recalling* decisions 2/CP.19 and X/CP.20 (Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts) and welcoming of the progress made in Lima, Peru, towards the implementation of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts,

*Noting* with grave concern the significant gap between the aggregate effect of Parties' mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with having a likely chance of holding the increase in global average temperature below 2 °C or 1.5 °C above pre-industrial levels,

1. *Confirms* that the Ad Hoc Working Group on the Durban Platform for Enhanced Action shall complete the work referred to in decision 1/CP.17, paragraph 2, as early as possible in order for the Conference of the Parties at its twenty-first session to adopt a

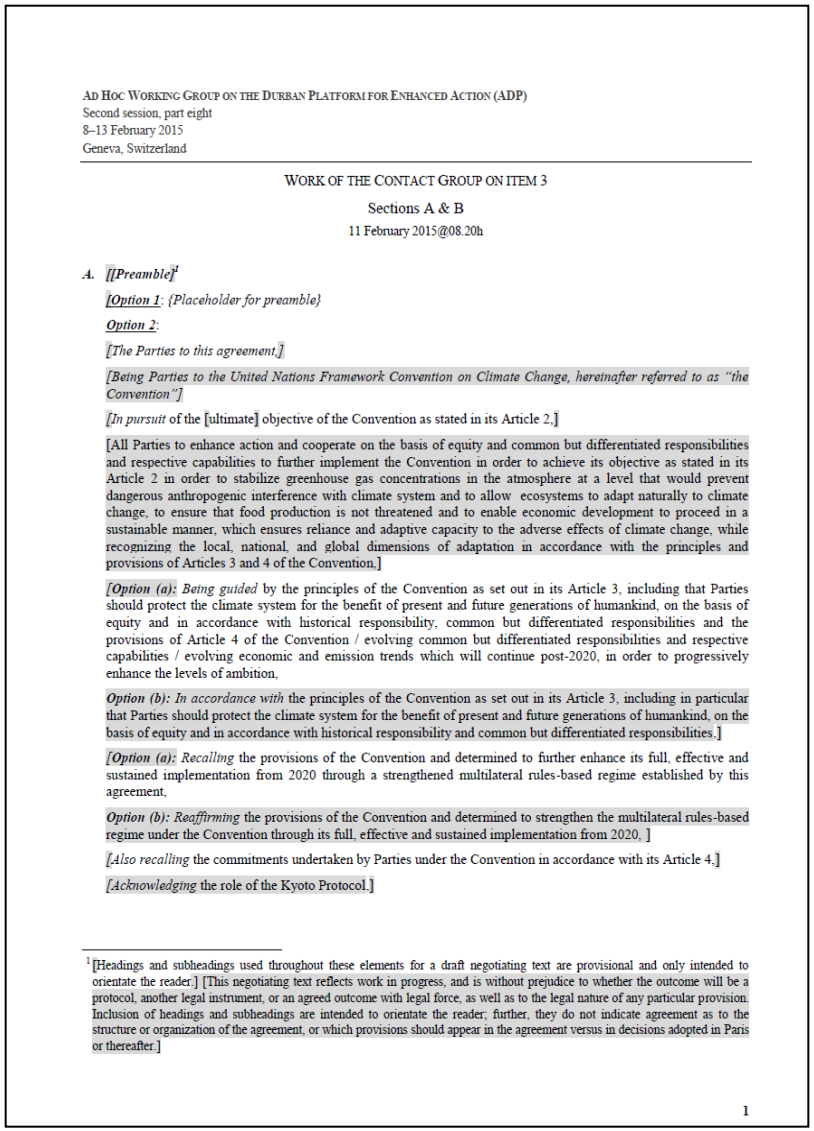
GE.14-24269

Please recycle

***Lima Call for climate action (2014) : Article 19:***

***"Decides to continue the technical examination of opportunities with high mitigation potential, including those with adaptation, health and sustainable development co-benefits, in the period 2015–2020 "***

# Feb 2015: Health [provisionally] in the draft Preamble text of the Paris agreement



AD HOC WORKING GROUP ON THE DURBAN PLATFORM FOR ENHANCED ACTION (ADP)
Second session, part eight
8–13 February 2015
Geneva, Switzerland

WORK OF THE CONTACT GROUP ON ITEM 3

Sections A & B

11 February 2015@08.20h

A. *[[Preamble][1]*

*[Option 1: {Placeholder for preamble}*

*Option 2:*

*[The Parties to this agreement,]*

*[Being Parties to the United Nations Framework Convention on Climate Change, hereinafter referred to as "the Convention"]*

*[In pursuit* of the [ultimate] objective of the Convention as stated in its Article 2,]

[All Parties to enhance action and cooperate on the basis of equity and common but differentiated responsibilities and respective capabilities to further implement the Convention in order to achieve its objective as stated in its Article 2 in order to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with climate system and to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner, which ensures reliance and adaptive capacity to the adverse effects of climate change, while recognizing the local, national, and global dimensions of adaptation in accordance with the principles and provisions of Articles 3 and 4 of the Convention.]

*[Option (a): Being guided* by the principles of the Convention as set out in its Article 3, including that Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with historical responsibility, common but differentiated responsibilities and the provisions of Article 4 of the Convention / evolving common but differentiated responsibilities and respective capabilities / evolving economic and emission trends which will continue post-2020, in order to progressively enhance the levels of ambition,

*Option (b): In accordance with* the principles of the Convention as set out in its Article 3, including in particular that Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with historical responsibility and common but differentiated responsibilities.]

*[Option (a): Recalling* the provisions of the Convention and determined to further enhance its full, effective and sustained implementation from 2020 through a strengthened multilateral rules-based regime established by this agreement,

*Option (b): Reaffirming* the provisions of the Convention and determined to strengthen the multilateral rules-based regime under the Convention through its full, effective and sustained implementation from 2020, ]

*[Also recalling* the commitments undertaken by Parties under the Convention in accordance with its Article 4,]

*[Acknowledging* the role of the Kyoto Protocol.]

[1] [Headings and subheadings used throughout these elements for a draft negotiating text are provisional and only intended to orientate the reader.] [This negotiating text reflects work in progress, and is without prejudice to whether the outcome will be a protocol, another legal instrument, or an agreed outcome with legal force, as well as to the legal nature of any particular provision. Inclusion of headings and subheadings are intended to orientate the reader; further, they do not indicate agreement as to the structure or organization of the agreement, or which provisions should appear in the agreement versus in decisions adopted in Paris or thereafter.]

1

***[Recognizing* that actions to address climate change simultaneously contribute to the attainment of the highest possible level of health and that climate change policies and health policies should be mutually supportive,]**

# Current status of health in the draft Paris Agreement

- Countries completed pre-CoP negotiations in October 2015
- There is increasing mention of health in the climate discussions, and it is considered to be positive and uncontroversial
- However, there are only four health references in the draft text, and these are not in the operative paragraphs on cutting greenhouse gas emissions and adapting to climate change
- Clear health references would give more opportunity for national Ministries of Health to access the technical and financial support mechanisms that should result from Paris

# More information:

**Public Health and Environment**
http://www.who.int/phe/en/

**Climate Change**
http://www.who.int/globalchange/climate/

**Call to Action**
http://www.who.int/globalchange/global-campaign/call-for-action/en/

**Country Profiles**
http://www.who.int/globalchange/resources/countries/en/