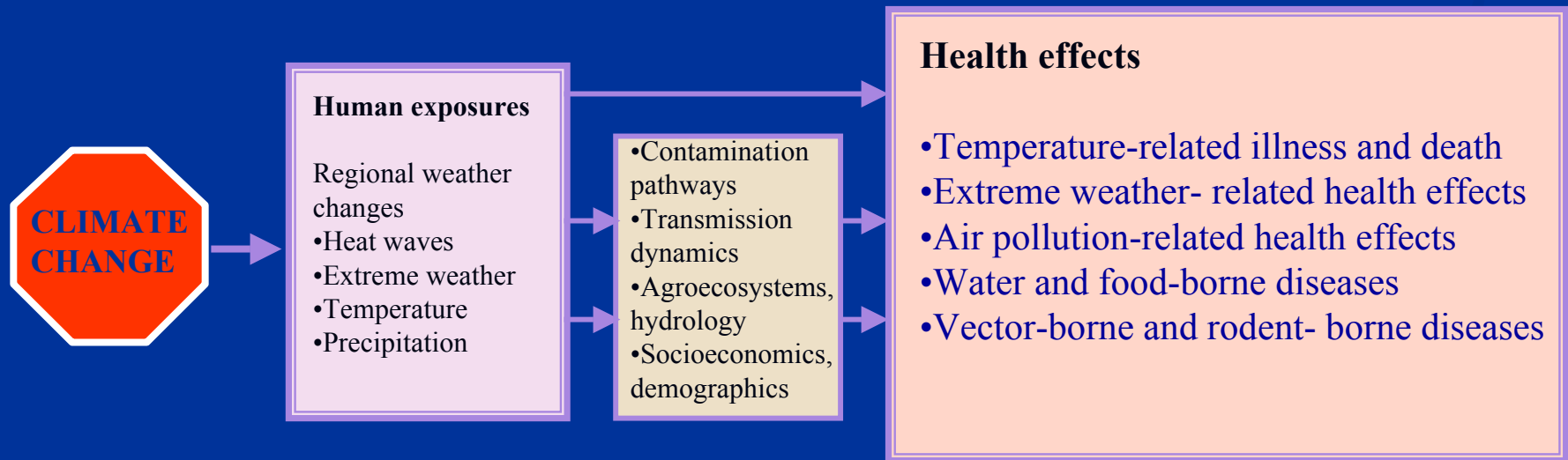


Climate Variability: Health Effects

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Thanks to Carlos F. Corvalan from the
WHO for supplying the material for this
presentation

Mapping links between Climate Change and Health



Based on Patz et al, 2000

Climate Change: Threats to Human Health

- Insect and rodent diseases including dengue, leptospirosis, malaria and yellow fever
- Waterborne diseases including schistosomiasis, cryptosporidium and cholera
- Deaths and direct injuries including bites from animals
- Food-borne diseases including diarrhoeal diseases, food poisoning, salmonellosis and typhoid

Climate Change: Threats to Human Health

- Respiratory diseases - asthma, bronchitis, allergies and infections
- Heat-related illnesses – sunstroke, sunburn, heat stress, heat exhaustion and dehydration
- Malnutrition – from disturbances in food production or distribution
- Anxiety and stress

Experiences

- **1997-1998 El Niño on Pacific Nations**
 - Government alerted of changes in rainfall and storm patterns. Sever droughts, typhoons and hurricanes were expected
 - Drought-response plans were developed and aggressive public education programme

Fewer children were admitted to hospital with diarrhoeal disease than under normal conditions

Experiences

- **1997-1998 El Niño – Indonesia**
 - **Forrest Fires – drought**
 - **Air quality was affected in regions beyond the immediate burn areas**

More cases of Respiratory Illnesses and allergy symptoms than normal reported

Experiences

- Caribbean 2001 – Tropical Storm Lily
 - St. Vincent: >US\$14.8 agricultural loses and 4 deaths
 - Barbados: poultry Ind. Lost more than US\$100,000 – 400 houses were damage
 - St. Lucia – Banana Ind lost more than US\$7.52 million

Experiences

- 1997-1998 El Niño – Fiji – Dengue Outbreak
 - 24,000 affected/856,000 total pop – 13 persons died
 - T° affects rate of virus development inside mosquito
 - Increases in incidence are associated with warmer, more humid weather
 - Population immunity plays great role

Recommendations

- Early warning systems to enhance opportunities for disease control – site specific
 - We look for conditions that may be conducive for disease
- Enhanced public health monitoring and surveillance programme

Piloting Climate Change Adaptation to Protect Human Health

A joint WHO/UNDP project
funded by the Global Environment Facility (GEF)

Project Pilot Countries

- Pilot with seven countries in different ecosystem zones, thus different health risks from climate change:
 - Small island developing states: Fiji and Barbados,
 - Countries with highland areas: Bhutan and Kenya,
 - Water-stressed Countries: Jordan and Uzbekistan, and
 - Countries with multiple vulnerabilities: China.

Project Design Phase Activities (I)

- Identify main health vulnerabilities to climate change, including variability and for each country, e.g.
 - Diseases associated with water scarcity
 - Storms and floods
 - Changing patterns of vector-borne pathogens,
 - Urban heat stress
- Examine current health policies to address these threats
- Identify strategies, policies, and measures to cope with the additional burden of climate change, including variability

Project Design Phase Activities (II)

- Identify barriers to implementation of the various strategies, policies, and measures
- Estimate the additional cost of climate change adaptation relative to current baseline
- Design a proposal to implement one or more actions for each country
- Share information across countries and develop final project proposal

Expected Natural Benefits

Measurable increase in "adaptive capacity":

- Reduction in the burden of climate sensitive diseases;
- Reduction of the effect of climate change on human health;
- Better Integration of planning and implementation across sectors

Expected Global Benefits

- Improved knowledge of the links between climate, health, and adaptation in the most vulnerable countries.
- Adaptation strategies that other countries can use to protect human health from the impact of climate change.

Project Partners

At the national level :

- National Government,
 - Ministries (e.g. Health, Environment, Agriculture)
 - Agencies (e.g. Meteorology Agency)
- NGOs in health and environment fields,
- Researchers,
- Health Practitioners, and
- Representatives of most vulnerable community groups.

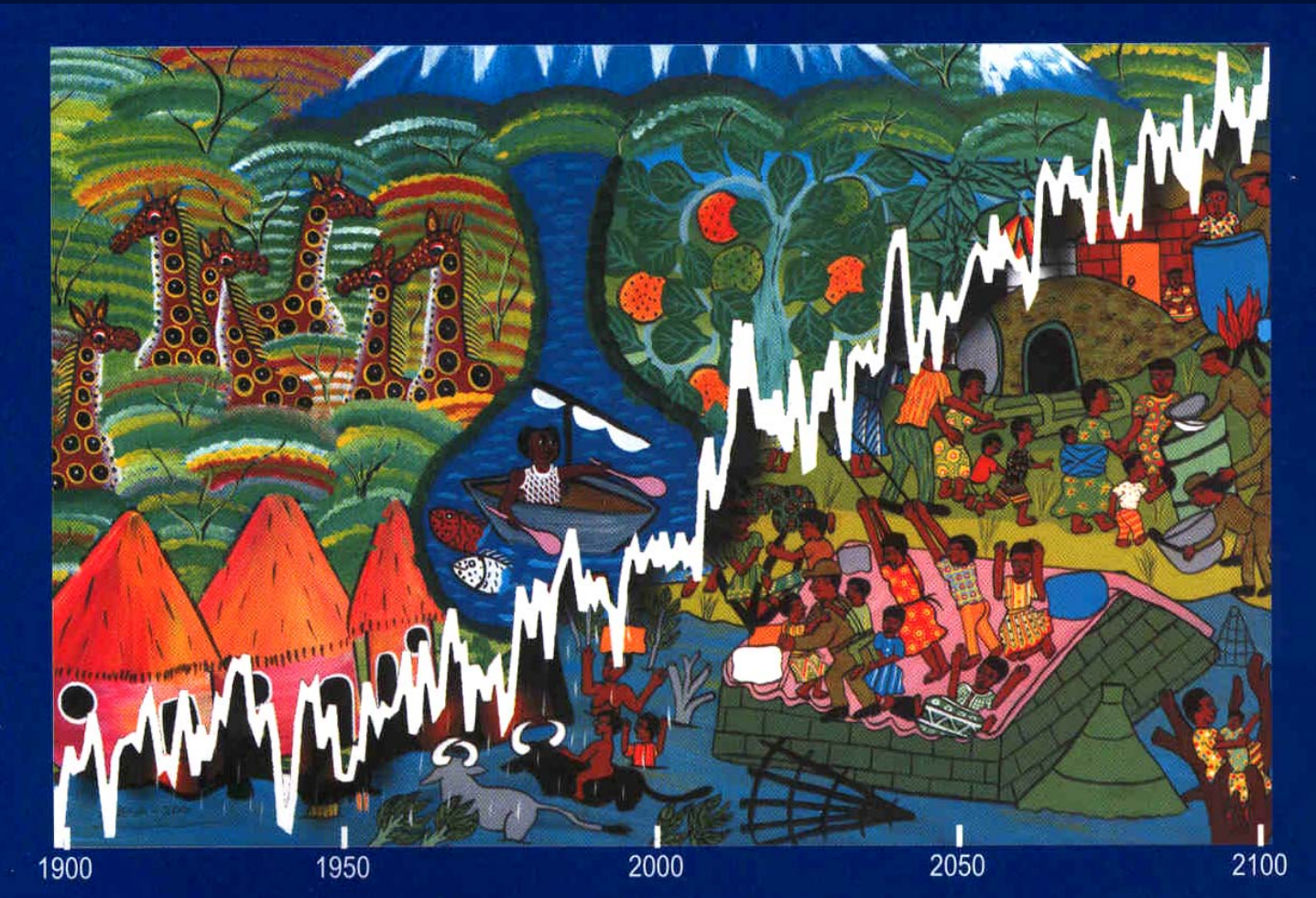
Project Partners

- At the global level
 - Global Environment Facility (GEF)-Project Funder
 - United Nations Development Programme (UNDP)
 - GEF agency, provides broad expertise in adapting to climate change
 - World Health Organization (WHO)
 - Executing agency for the project design phase,
 - Technical support for design, selection and implementation of health protection measures.

Future

Climate change adaptation is a new field. The long term aims of the project are:

- Rolling out lessons from this pilot project to other countries facing similar stresses, but with few resources,
- Supporting broad aim of preventive approaches to protect health and,
- Widening partnerships



Project Webpage:

<http://www.who.int/globalchange/climate/gefproject>

More information on Climate Change:

<http://www.who.int/globalchange>

<http://www.undp.org/climatechange>