

Climate Change and Health: From Science to Policy Action

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The Presentation

- Climate Change and Health
- Climate Change Vulnerability and Adaptation
- Climate Change vs Climate Variability and Extreme Events
- Adaptation Policy Mainstreaming: Mainstreaming vs Effective Mainstreaming
- Issues on Mainstreaming Health Adaptation to Climate Change

Views from IPCC Fourth Assessment Report

“Adaptation is needed now in order to reduce current vulnerability to the climate change that has already occurred and additional adaptation is needed in order to address the health risks projected to occur over the coming decades.....” (8.6 of chapter 8 AR4)

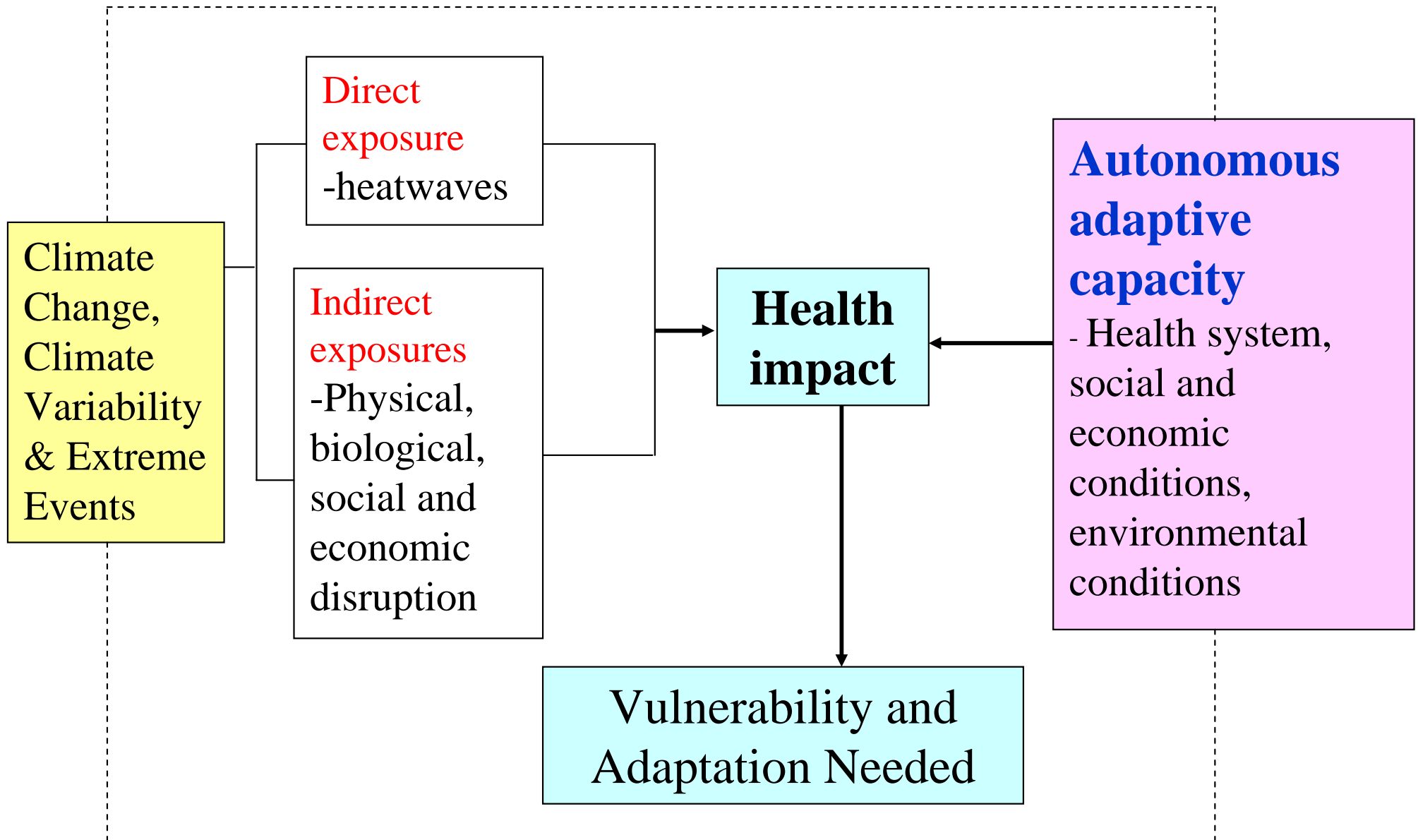
To adapt needs

**MAINSTREAMING AND INTEGRATION
INTO DEVELOPMENT AND POLICY
PLANNING PROCESS**

Climate Change and Health

- Relationships are both direct and indirect
- Effects are long-term and short-term
- Effects are complex and through various pathways
- Studies have been concentrated in developed countries
- Substantial information gaps between rich and poor countries

Health Vulnerability and Adaptation



Orders of Climate Change Effects on Health

First-Order Effects **Injury and illness resulting from increased frequency or magnitude of extreme events such as tropical cyclones and heat waves**

Second-Order Effects **Altered distribution of communicable diseases including:**

- **Vector-borne diseases**
- **Waterborne diseases**
- **Toxic-algae-related diseases**

Nutrition-related diseases

Third-Order Effects **Effects of poverty, inequality, unemployment, forced migration, and other socio-economic effects of climate change**

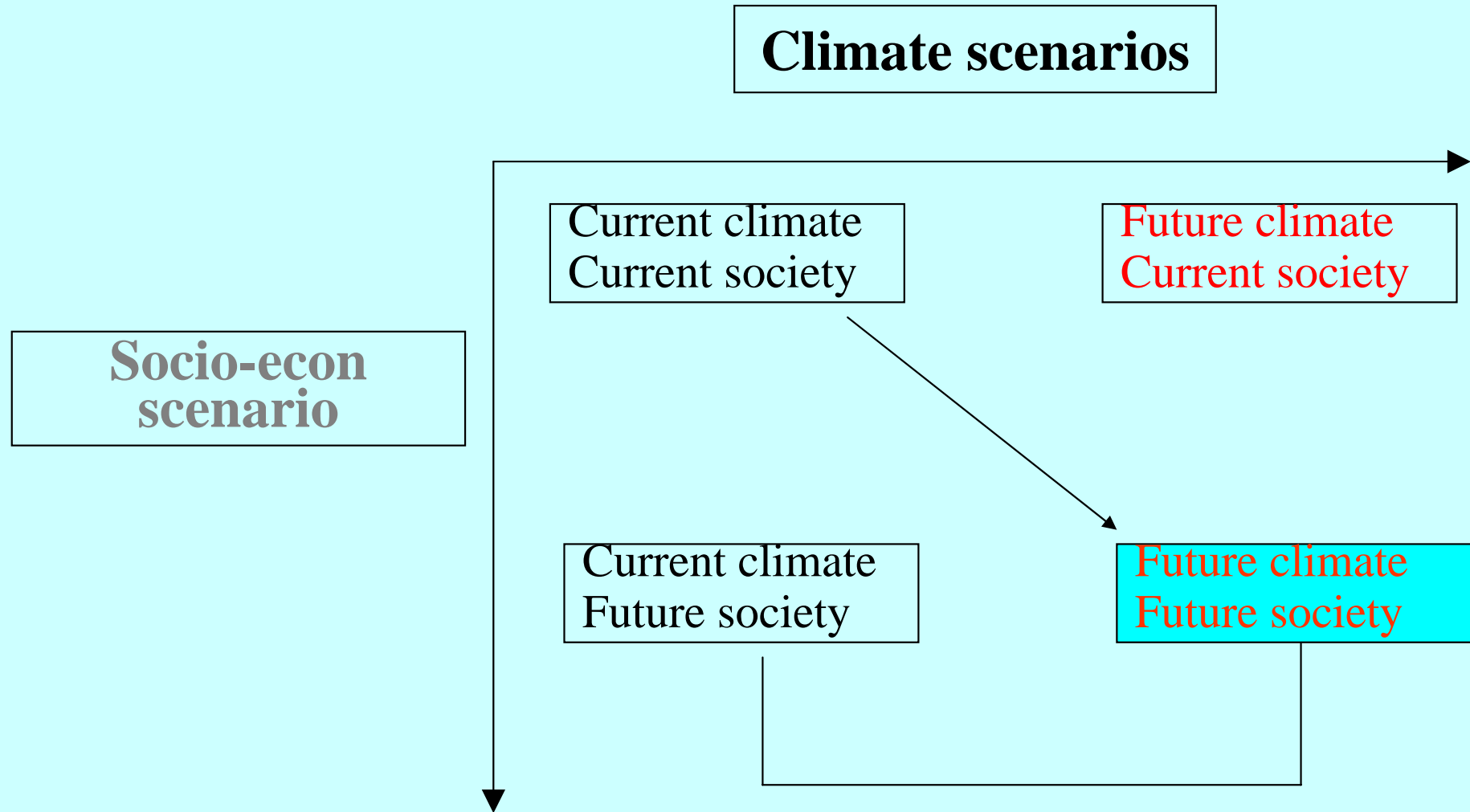
Table 3.11: Known effects of weather/climate and potential health vulnerabilities due to climate change.

Health Concerns	Vulnerabilities due to climate change
Temperature-related morbidity	Heat- and cold-related illnesses.
	Cardiovascular illnesses.
Vector-borne diseases	Changed patterns of diseases.
	Malaria, filaria, kala-azar, Japanese encephalitis, and dengue caused by bacteria, viruses and other pathogens carried by mosquitoes, ticks, and other vectors.
Health effects of extreme weather	Diarrhea, cholera and poisoning caused by biological and chemical contaminants in the water (even today about 70% of the epidemic emergencies in India are water-borne).
	Damaged public health infrastructure due to cyclones/floods.
	Injuries and illnesses.
	Social and mental health stress due to disasters and displacement.
Health effects due to insecurity in food production	Malnutrition and hunger, especially in children.

Climate Change and Climate Variability and Extreme Events

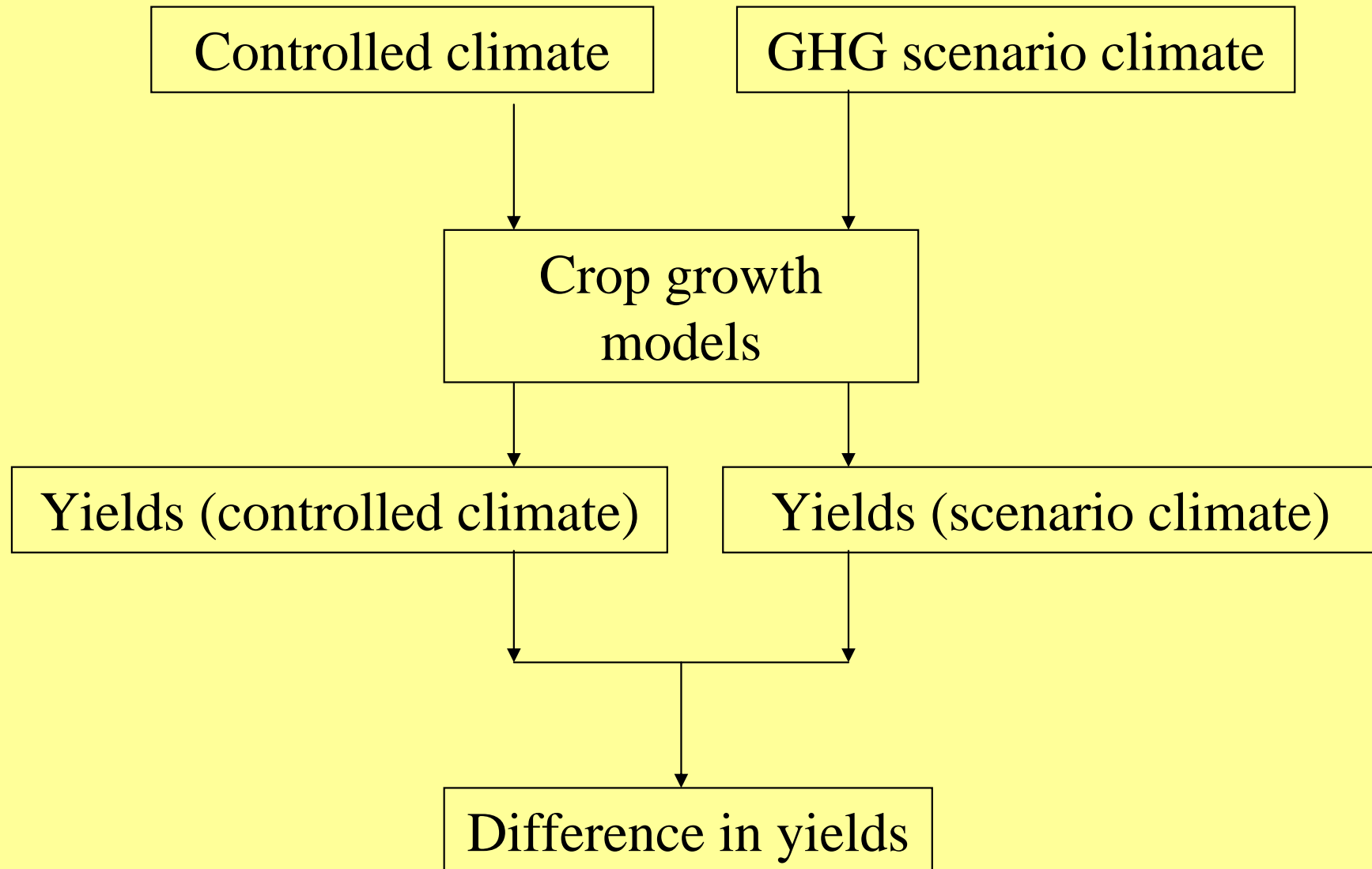
- **Climate Change Impact**
 - Climate Change is an average long-term change
 - Model-based quantitative scenario approach (double CO₂, about one century)
 - good statistical data required
 - High uncertainties
 - Downscale to national level is common

Use of Scenarios



Difference is Impact of Climate Change

Common Approach (agriculture as example)



- **Climate Variability and Extreme Events**

- Local-area based and consultation approach, short-term)
- Based on historical experiences, perception and expectation; Statistical data are not critical constraints
- Flexible decision tools and mostly qualitative (B-C analysis, least-cost analysis, ranking methods, multi-criteria Analysis)

8 Steps of participatory V&A to Climate Variability and Extreme Events

- Build multi-disciplinary team
- Synthesize V&A existing materials
- Participatory vulnerability assessment
- Consult stakeholders and public
- Compile potential adaptation options
- Prioritization criteria and screen options
- Rank activities
- Create project profile

Examples are NAPA Preparation Process

Mainstreaming and Effective Mainstreaming

- Mainstreaming is about process not end-product
- Factors contributing to mainstreaming
 - Information
 - Institution setting
 - Enabling environment
 - Stakeholder participation
- Effective Mainstreaming
 - Availability and Functionality

Issues on Mainstreaming Adaptation

- **Climate change impact and adaptation**
 - Technical limitations (Uncertainties, long-term, downscale)
 - Practical Applicability (Socio-economic aspects)
- **Adaptation to climate variability and extreme events**
 - Lack of quantitative analysis and hence less effective at national level
 - Site specific and require more substantial resources

V&A in Health Sector from selected National Communications

Country	Quantitative	Qualitative	Institutions	Adaptation Options
Cambodia	Yes	Yes	Yes	Yes
China	No	No	Yes	No
Fiji	Yes	Yes	Yes	Yes
India	No	Yes	Yes	Yes
Indonesia	No	No	Yes	No
Korea1	No	No	Yes	No
Korea2	No	No	Yes	No
Malaysia	No	Yes	Yes	No
Micronesia	No	No	NA	No
PNG	No	Yes	NA	Yes
Philippines	Yes	Yes	Yes	No
Samoa	No	Yes	NA	Yes
Singapore	No	Yes	Yes	Yes
Thailand	Yes	Yes	Yes	Yes
Tuvalu	No	Yes	NA	No
Vanuatu	No	Yes	Yes	Yes

Experiences in Adaptation Mainstreaming in Asia from National Communications

- **Information**
 - Limited quantitative information for policy decision making(benefit-cost, uncertainty)
- **Institution Setting**
 - Mostly well-established
- **Enabling Environment**
 - Information not available
- **Stakeholder Participation**
 - Varied and health is not common

Key Issues to Enhance Mainstreaming Adaptation in Health Sector

- Improve Information: Usable and Timely (Get Sociologists and economists involved)
- Integrate with Existing Health-related Strategies & Measures
- Institution: Active and Good Coordination
- Emphasize climate variability and extreme events

Effective Mainstreaming on Climate Change and Health could Emphasize Upon:

- Expand existing planning horizon
- Expand existing mechanism - public awareness, early warning system, enhance health status
- Strengthen research on climate change and health
- Cautious development of climate change-health adaptation strategies per se
- Improve nation-regional-international surveillance system

THANK YOU
FOR
YOUR ATTENTION