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Climate Change and Health

Preventive Medicine Department

Ministry of Health

Climate Change and Health in Cambodia

A Vulnerability and Adaptation Assessment

2-4 October, 2011
Inter-Continental Hotel
Phnom Penh, Cambodia

Outline

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Brief Overview of Assessment

Goal

- To build capacity and strengthen health systems in country and at the regional levels to protect human health from current and projected risks due to climate change.

Objectives

- Increase awareness of health consequences from climate change;
- Strengthen the capacity of health systems to provide protection from climate-related risks and substantially reduce the health system's due to greenhouse gas emissions;
- Ensure that health concerns are addressed in decision making to reduce risks from climate change and in other key sectors.

Brief Overview of Assessment

Approach

- The process has been led by the Department of Preventative Medicine, Ministry of Health, and facilitated by external WHO public health consultants.

Technical Scope

- Cambodians are highly Vulnerable to the Health Impacts from Climate Change.

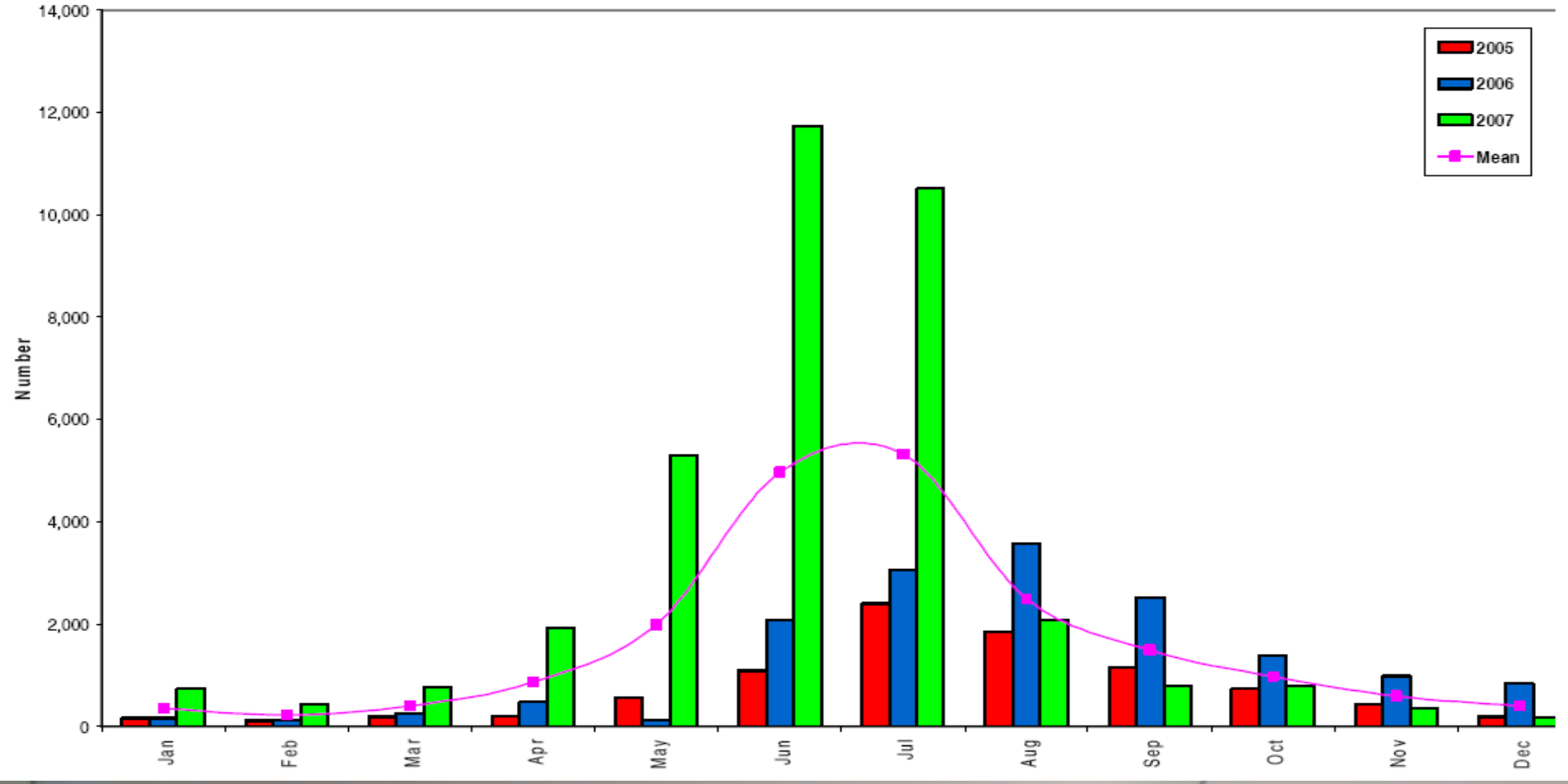
- Most regions in Cambodia have limited adaptive capacity to respond positively to the impacts from climate change given high levels of poverty, low educational levels, technological and infrastructure limitations and issues of governance.

Brief overview of Assessment

Major Findings:

- Cambodia is highly vulnerable to the environmental impacts from climate change.
- Current burden of climate-sensitive diseases is high.
- Climate change is likely to alter burden of climate-sensitive diseases.
- Particular population will be at increased risk.
- The main impacts of climate change on health in Cambodia have been identified to be greatest in climate sensitive areas:
  1- Vector-Borne Diseases (e.g. malaria, dengue fever);
  2- Food Security;
  3- Water Stress: Water and Food Borne diseases; and
  4- Health Consequences of Extreme Weather Events.

Monthly Distribution of Dengue Cases, 2005 – 2007

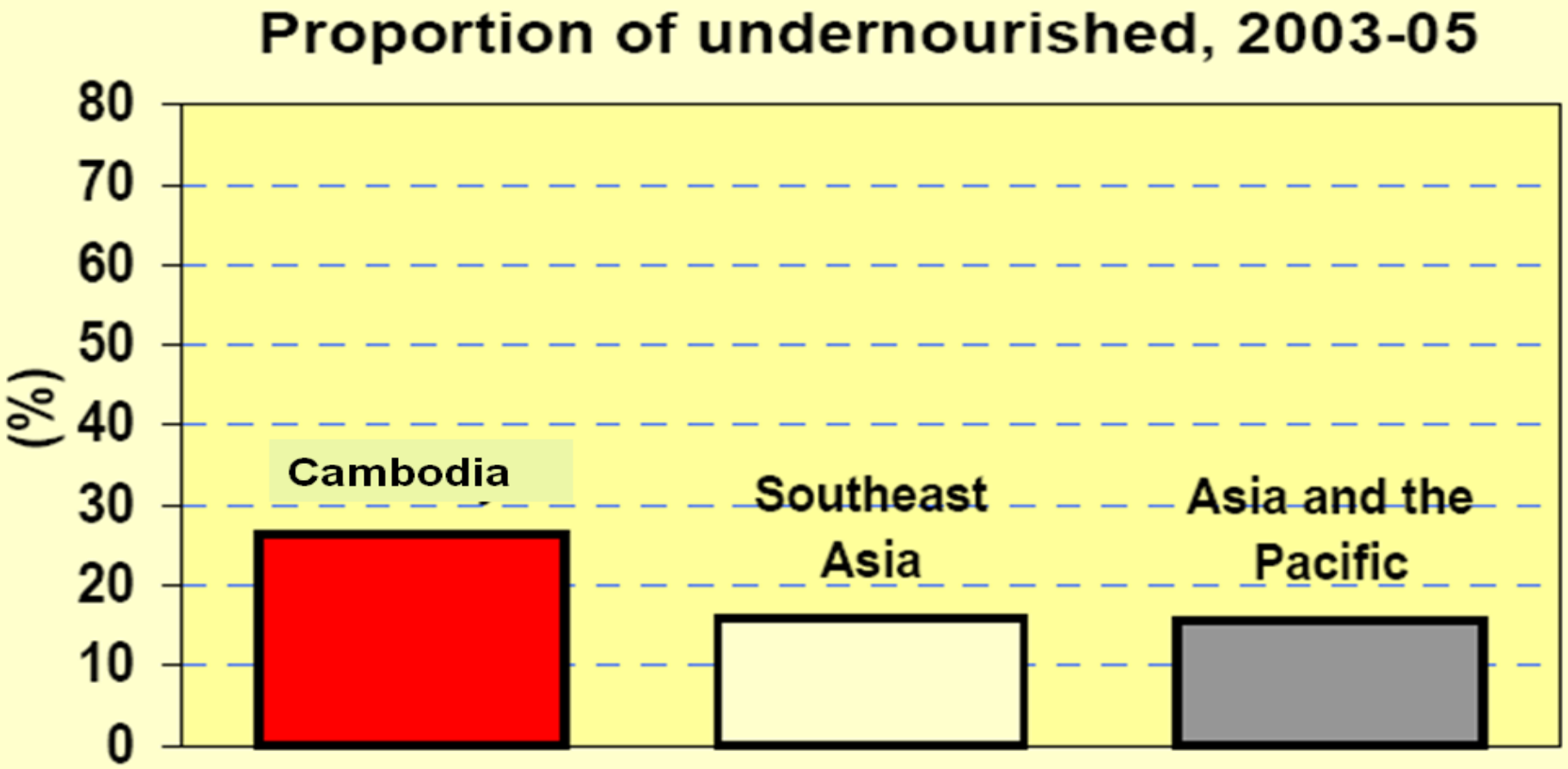


(Source: National Centre for Malaria)

Cambodian Millennium Development Goal Indicators and Targets

PARAMETER	BASELINE (YEAR)	2005		2010 TARGET	2015 TARGET	STATUS[1]
		TARGET	ACTUAL			
MALARIA CASE FATALITY RATE REPORTED BY PUBLIC HEALTH SECTOR (%)	0.4 (2000)	0.3	**0.36**	0.25	0.1	C
POPULATION AT HIGH RISK WHO SLEPT UNDER IMPREGNATED TREATED BED NETS DURING PREVIOUS NIGHT (%)	24 (2000)	80	**49**	95	98	C
PUBLIC HEALTH FACILITIES ABLE TO CONFIRM MALARIA DIAGNOSIS ACCORDING TO NATIONAL GUIDELINES WITH 95% ACCURACY (%)	60 (2002)	70	N/A	80	95	
NUMBER OF MALARIA CASES TREATED IN THE PUBLIC HEALTH SECTOR PER 1000 POPULATION	11.4 (2000)	9	**7.3**	7	4	A

Comparison of Undernourished Population Compared with Asia and the Pacific

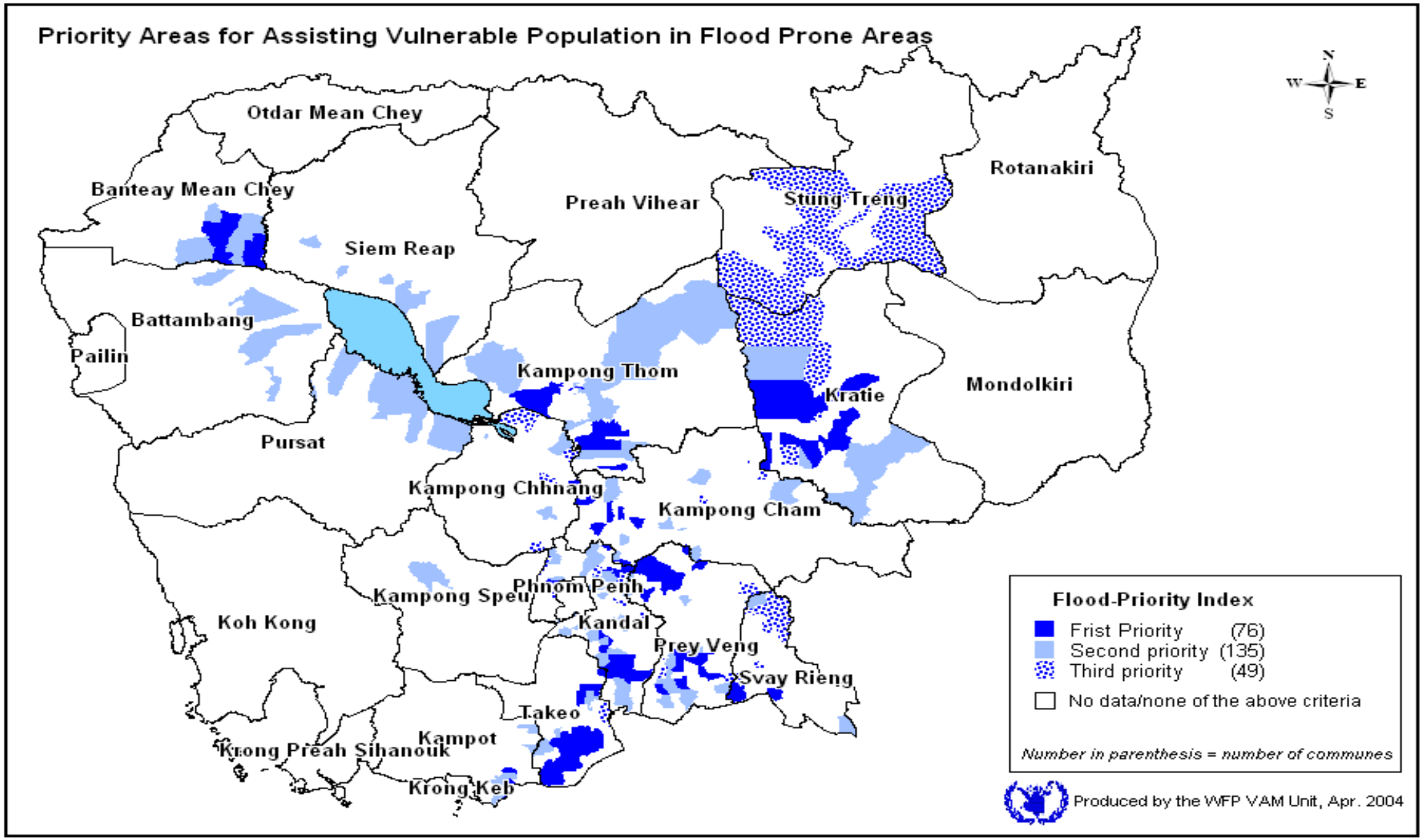


(Source: Food and Agriculture Organization)

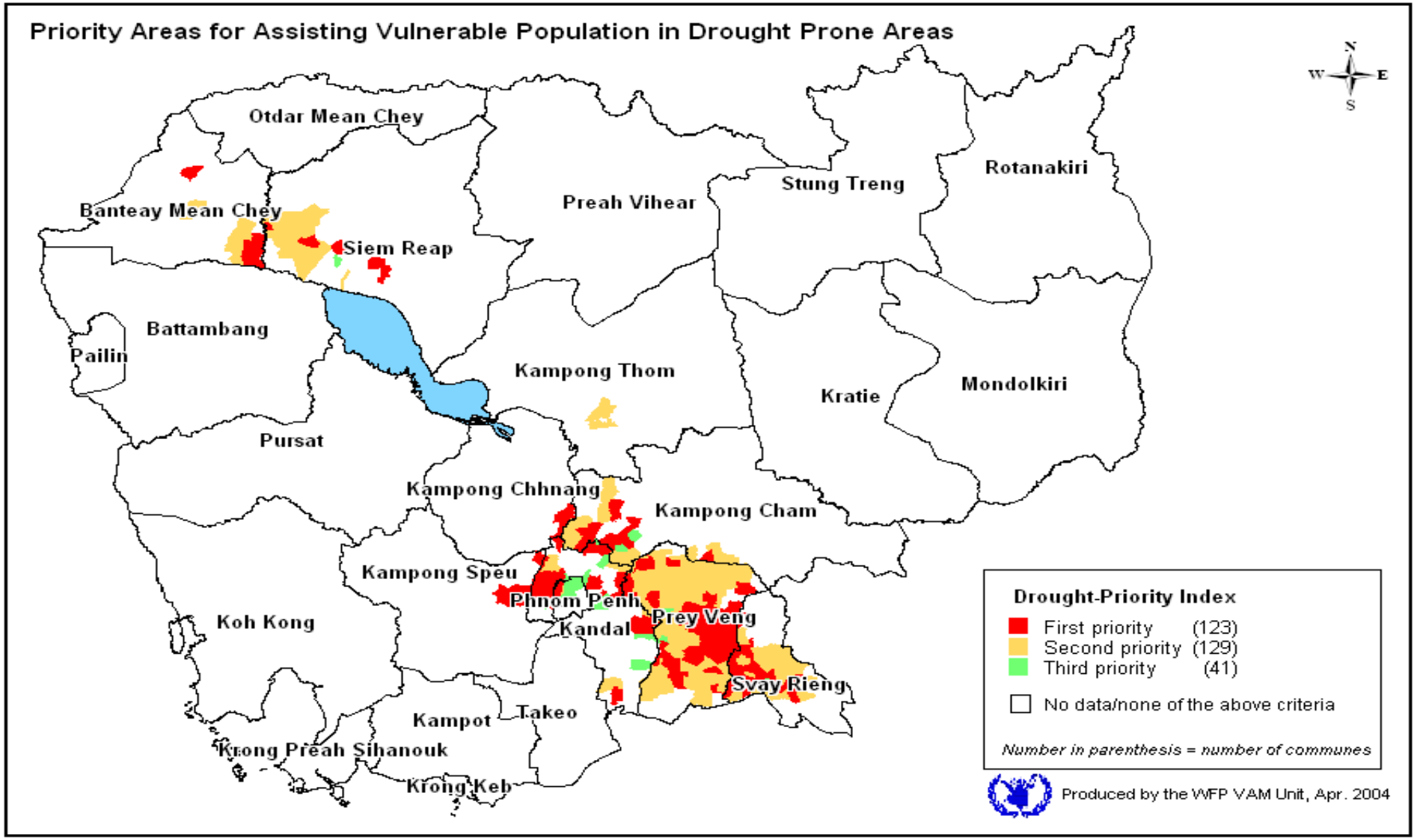
Cambodian Millennium Development Goal
Eradicating Extreme Poverty and Hunger

Parameter	Baseline (Year of Estimate)	2005		2010	2015	Status[1]
		Target	Actual	Target	Target	
Population below food poverty line (%)	20 (1993)	16	19.7	13	10	C
Underweight children (<5yrs) %	45.2 (2000)	36	28	24	19	B#
Stunting (Children <5 yrs) %	44.6	35	44	35	25	C#
Wasting (Children < 5 yrs) %	15	13	8	7	6	A#
Households using iodised salt (%)	14 (2000)	80	73	81	90	C

Flood Prone Areas in Cambodia Based on Vulnerability to Flood



Drought Prone Areas in Cambodia Based on Vulnerability to Drought



Assessment Method

The method undertaken for this V&A assessment was adapted from recent WHO guidelines for conducting primarily qualitative assessment in resource poor settings.

The steps undertaken in this assessment were:

- Identification of relevant stakeholders;
- Description of current burden of climate-sensitive health outcomes, including the population and regions that are most vulnerable;
- Description of how current burden of climate-sensitive health outcomes are likely to change over coming decades irrespective of climate change;
- Description of the effectiveness of current programs and activities;
- Estimation of the possible additional burden of adverse health outcomes due to climate change;
- Identification and prioritization of public health and health care interventions to reduce likely future health burdens; and
- Identification of strategies to implement, monitor and evaluate the burden of climate-sensitive health outcomes and interventions to address these burdens, ensuring continued effectiveness in a changing climate.

Major Challenges & Quality of Assessment

- Insufficient capacity for assessment, research and communication on climate-sensitive health risks;
- Inadequate specific steps of literature;
- A focus on lowering background rates of disease and illness will ultimately ensure absolute future health impacts of climate change will also be constrained.

Major Challenges & Quality of Assessment

- Programs to reduce current burden of climate-sensitive disease are prioritised by Government and non-governmental organisations, but there are limitations and programmatic gaps;
- There are limited data and research capacity to facilitate study of the impact of climate change on health;
- There is a need for increased training within the health sector of the potential impacts of climate change on health;
- To date, the health sector's role and involvement in strategic planning to mitigate and adapt to climate change are limited.

Major Challenges & Quality of Assessment

- This V&A assessment marks an important first step for the health sector in Cambodia in meeting many challenges posed by climate change;
- The NAPA identified 39 adaptation projects, but contributing to this has been a perception that climate change related issues are primarily an environmental concern rather than a development or health issue;
- Further work on prioritisation of these projects and cost-benefit analyses will need to be undertaken prior to submission for funding.

Hierarchy of Public Health Adaptation Responses

Adaptation Response	Definition	Example	Enabling Agencies / Tools
Zero-order[1]	Mitigation of greenhouse gas emissions	• Mandating improved fuel efficiency of new cars • Reduce reliance on fossil fuel derived energy	• International agreements • Government Policy • Private industry
Primary	Reducing exposure of populations to climate change and its environmental impacts	• Redesign/modification of cities to lessen the urban heat island effect • Improving barriers against floods • Improving irrigation	• Government policy • Regional governments • Development partners
Secondary	Reducing the health impact of climate change exposures	• Strengthening surveillance and eradication programs for vector borne infections • Early warning and response systems for floods and storms • Improving education of villagers for prevention and management of common diseases • Improved services to urban poor	• Government ministries • Development partners • Academia • Community level health and education centres
Tertiary	Managing the adverse health outcomes of climate change	• Effective management and treatment programs for disease (ie malaria) • Rapid emergency response capability for natural disaster or disease outbreak	• Government ministries • Community level health facilities • Development partners

Adaptation Strategies for Specific Health Outcomes

Vector-borne disease

- International cooperation (Secondary)
- Surveillance and Research (Secondary)
- Vector control (Secondary)
- Epidemic Preparedness (Secondary)
- Early Diagnosis and treatment (Secondary)

Food security

- International cooperation (Primary)
- Agricultural diversification and improved land use (Primary)
- Research and Modelling (Secondary)
- Access to markets (Secondary)
- Education (Secondary)
- Poverty Reduction (Secondary)
- Response to Malnutrition or Famine (Tertiary)

Adaptation Strategies for Specific Health Outcomes

Extreme Weather

- Improvements to Buildings and infrastructure (Primary)
- Coastal and River Defence (Primary)
- Modelling (Primary/ Secondary)
- Early warning Systems (Secondary)
- Disaster Preparedness (Secondary)
- Disaster Response (Tertiary)

Water- and food-borne infection

- Improving water supply and access (Primary)
- Improving Sanitation (Primary)
- Education (Secondary)
- Treatment (Tertiary)

Future Challenges

- Population health will be affected both by direct and indirect effects of climate change via extreme weather events, exacerbation of food and water insecurity, poverty and disruptions to civil and health infrastructures and programs;
- Health outcomes are considered in the future planning across all sectors;
- The responsibility for reducing the health impacts of climate change should therefore be shared by all government agencies;
- Health should be seen as a cross-cutting issue of sustainable development that is ‘mainstreamed’ into all public policy decision-making processes.

Ways Forward

- Establish an institutional framework to coordinate response;
- Health as a cross-cutting theme in policy decisions across all sectors;
- Establish a research agenda;
- Increase the role of and capacity within the ministry of health to meet challenges of climate change and health;
- Commence work on prioritisation and implementation of adaptation options.

THANK YOU !

For more information:

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