

**Workshop Report**

**Climate Variability and Change and their  
Health Effects in Pacific Island Countries**

**Apia, Samoa  
25-28 July 2000**



**Protection  
of the Human  
Environment**

Geneva

**Healthy  
Settings and  
Environment**

Manila

December 2000

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This workshop was organized by the World Health Organization under the auspices of the Interagency Network on Climate and Human Health which includes WHO, the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP). For this regional workshop, collaboration also came from US National Oceanic and Atmospheric Administration, Office of Global Programs, and the US Environmental Protection Agency, Global Change Research Program.

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# I. WORKSHOP SUMMARY

## A. Workshop objectives

The Workshop on Climate Variability and Change and their Health Effects in Pacific Island Countries was conducted in Apia, Samoa, from 25 to 28 July 2000.

The objectives of the workshop were:

1. to review and share the experiences of the impacts of climate variability (e.g. El Niño Southern Oscillation – ENSO), and long-term climate change in the Pacific island region;
2. to learn about available tools on the Internet for ENSO and other climate predictions useful for early warning, and for ongoing research on early warning for protection of human health;
3. to acquire basic understanding the linkages between climate change and health; the tools available for predicting the nature and extent of climate change and the associated adverse impacts on health; and the measures that can mitigate these adverse impacts;
4. to develop plans for sustainable future activities; and
5. to prepare recommendations to be reported at a policy-makers' forum.

The workshop was attended by 13 participants from Cook Islands, Fiji, Kiribati, Federated States of Micronesia, Niue, Palau, Papua New Guinea, Samoa, Tonga, Tuvalu and Vanuatu. There were eight representatives from international partner agencies, including the Australian Agency for International Development (AusAid), South Pacific Applied Geoscience Commission (SOPAC), South Pacific Regional Environment Programme (SPREP), United Nations Environment Programme (UNEP), and World Meteorological Organization (WMO). Also present were five observers from the Department of Health, Samoa. WHO provided a consultant, three temporary advisers and two WHO staff members, serving as the secretariat. There were also ten resource persons funded by themselves or organizations (e.g. USEPA and NOAA).

The workshop presentations included: a keynote address on climate change and health for small island states; presentation of working papers on regional health/climate initiatives, climate change and forecasting, health implications, impacts on water supply, and national and regional assessment; plenary discussions and group exercise on application of meteorological data to assess major health problems in the region, dengue simulation modelling and regional and international institutional resources and data, and a round table discussion to develop recommended future activities in the region.

## **B. Conclusions**

The workshop participants concluded the following:

- (1) Climate variability and change are important determinants of health in the region. Although diseases and other impacts vary by country, the participants identified as high priority in the Pacific region, malaria, dengue, diarrhoeal disease/typhoid; skin diseases; acute respiratory infections; food security and malnutrition; water quality and quantity.
- (2) Participants noted that social aspects such as culture and traditions are important in reducing impacts of climate change and variability on health.
- (3) There is increasing evidence of linkage between climate variability/change and health conditions in the region.
  - Better understanding of these linkages through research will provide a basis for improving response/prevention strategies.
  - Evaluation of links across disease categories is important because response strategies may not be health outcome-specific. This evaluation will allow a shifting of priorities and emphasis for public health planning, and resource management.
  - Climate/health linkages are complex and must be viewed in the context of other environmental stressors and human activities.
- (4) Climate forecasting is one of several tools for responding to hazardous conditions relevant to health.
  - National and regional forecasting capacity will be needed for success.
  - Temperature, rainfall, tropical cyclones and sea level variability are important factors to include in the current forecasts available to the island nations and the region as a whole.
  - Communication should be facilitated between the medical/public health community and national meteorological and hydrological services, as well as other relevant agencies or organizations.
  - Consolidated forecasts, e.g. "indices", are needed for improved application. Cross sector coordination (e.g., with water and agricultural sectors) is a high priority.
- (5) Capacity building at all levels is important to reduce vulnerability to climate variability and change.
- (6) It is essential to capitalize on already existing regional efforts that address the impacts of climate variability and change.

## C. Needs and recommendations

### (1) Policy needs:

- National policy should address direct and indirect climate change impacts on public health. Integrating the recommendations of this workshop with other national and regional efforts in the areas of climate variability/climate change ranks as high priority.
- A regional mechanism to coordinate climate variability/change and human health should be encouraged. This mechanism would facilitate the exchange of information and services between National Ministries of Health, other relevant agencies, and end-users.
- Existing policies, including current initiatives at the international (e.g. UNFCCC) and regional (e.g. PICCAP) levels should be reviewed and implemented. In particular, the results of this workshop should be incorporated into the draft Pacific Islands Framework for Action on Climate Variability and Change.
- Intersectoral and interagency collaboration should be encouraged to maximize effective resource use.

### (2) Research needs:

- Basic entomological research, including the distribution of vector species, their responses to climate variability, habitats and biting habits and the effectiveness of control measures.
- Social, cultural, and economic aspects of linkage between climate and health, including important modifiable factors contributing to vulnerability and adaptation should be explored.
- Development of an index of health risk that incorporates both linkages to environmental indicators, such as the Environmental Vulnerability Index and social and human dimensions of climate variability and change (SOPAC, for example) could be a resource for integrated assessments.
- Evaluation of the effectiveness of response strategies and policies related to climate/health.
- Consolidation of and improved access (via the Internet) to regionally relevant information, including water quality, air quality, climate data, GIS and remote sensing data, health outcome data, and applied research and response strategies.
- Initiation of new studies on specific climate-sensitive diseases, such as skin, respiratory, and waterborne diseases.

(3) Training and technical assistance:

General training and technical assistance falls under three general categories:

- Health information systems should be improved at all levels.
- Services should include education, training, technical assistance, and public health infrastructure (for example, water resources and sanitation).
- Community attributes should include social cohesiveness, networking for wider support systems and community response and participation.

Further recommendations for expanding information systems:

- Establishing integrated health surveillance and environmental monitoring, and include laboratory testing and clinical diagnosis methods.
- Enhancing communication skills, including coordination between clinical, laboratory and public health staff.

Further recommendations for expanding services:

- Training of health professionals in environmental monitoring methods, such as vector monitoring and water quality tests and strengthen environmental monitoring. In addition, intersectoral training, bringing together experts from multiple disciplines, is a priority.
- Improving understanding of and expertise in the use of tools, such as software tools, available to assess vulnerability of and adaptation of climate variability and change.
- Providing user-friendly climate forecasts and applications information at the national and regional levels. Accurate and simple information, translated into simple language, should include information about floods and droughts, tropical cyclones, temperature and sea level variability.
- Providing seasonal temperature and rainfall forecasts and historical graphs and trends for each island/locality.

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