PAHO/WHO, Drought & Public Health in Latin America

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Climate and Environmental Determinants of Health
Communicable Diseases and Environmental Determinants of Health
• PAHO/WHO & Drought
• Country experiences
• Response mechanisms
Objective: Increase the capacity of health actors to address environmental determinants of health, prioritizing populations and communities living in situations of vulnerability, in order to meet Outcome 18 of the PAHO Strategic Plan 2020-2025 directly and several other outcomes of the Plan indirectly.

Goal: Reduce the burden of disease and inequalities and inequities in health attributed to environmental determinants in the Region with emphasis on air pollution, chemical safety, climate change, and water, sanitation, and hygiene (WASH).
Essential environmental public health functions

- Regulating and enforcing laws and regulations
- Assuring a competent workforce
- Surveillance
- Monitoring and assessment of interventions and equity
- Promotion of research and knowledge management
- Leading and mobilizing partnerships
- Developing policies and plans
- Informing, consulting, involving, collaborating, and/or empowering the public
- Regulating and enforcing laws and regulations
- Assuring a competent workforce

Resources and governance

Assessment

Policy development

Assurance
HOW DO WE IMPLEMENT THE STRATEGY?

- Improving the Performance of Environmental Public Health Programs
- Measuring Progress on Environmental Public Health in the Americas through the Sustainable Development Goals
- Building Environmentally Sustainable and Resilient Health Care Services
- Enhancing Community Resilience to Environmental Determinants of Health with negative Public Health Implications
- Climate Change and Health
- Chemical Safety
- Surveillance in Environmental Public Health
- Water, Sanitation and Hygiene
- Air Quality and Health
PAHO Agenda on Climate Change and Health

- Include meteorological/climate indicators in health programs and EWS
- Increase awareness by developing training materials and communication strategies
- Increase health participation in climate change national and international agendas
- Environmentally Responsible and Resilient Health Services

- Include Health in national climate change plans and documents
- Build evidence on the health effects of climate variability and climate change
- Identify climate finance opportunities and collaborate to develop projects
- Lead by example: green PAHO’s facilities and whole supply chain, through procurement
Drought is a prolonged dry period in the natural climate cycle. Drought often results in mass displacements of population.

The impacts can last for years, even after rainfalls resume.

Droughts are often predictable: periods of unusual dryness are normal in all weather systems. Advance warning is possible.

Drought is a slow-onset phenomenon caused by rainfall deficit combined with other predisposing factors.

Drought leads to water and food shortages and is likely to have a long-term environmental, economic and health impact on the population.

The greater frequency of droughts and more erratic nature of rains as a result of climate change, combined with underlying economic, social and environmental vulnerabilities have meant that droughts have an increasingly destructive impact on at-risk populations.
Factors influencing the impact of drought

- Demographic pressure on the environment;
- Food insecurity;
- Economic systems strictly dependent on agriculture;
- Poor infrastructure e.g. irrigation and water supply and sanitation systems;
- Poor health status of the population before the disaster;
- Time of the year, with the most critical period being before the harvest;
- Absence of warning systems;
- Population displacement;
- Other concurrent situations: economic crisis, political instability, armed conflict.
Main causes of mortality and morbidity

- Reduced food intake and lack of varied diet:
  - Protein-energy malnutrition;
  - Micronutrient deficiency:
    - Vitamin A deficiency increases the risk of death from measles; severe iron-deficiency anaemia increases the risk of child and maternal mortality.
    - Outbreaks of scurvy due to vitamin C deficiency
    - beriberi due to thiamine deficiency
    - pellagra due to niacin deficiency

- Communicable diseases. Lack of water supply and sanitation services, malnutrition, displacement and higher vulnerability of the population all increase the risk of infectious diseases such as cholera, typhoid fever, diarrhoea, acute respiratory infections and measles.

- Migration, loss of buying power and erosion of coping and caring capacities limit people's access to health services and can contribute to an overall increase in morbidity and mortality.
El Corredor Seco

- 10 million population
- April 2019 1.4 million in need of urgent food assistance (WFP)
  - 500,000 Guatemala
  - 500,000 Honduras
  - 400,000 El Salvador & Nicaragua
- Prolonged Drought in 2018 affected 70% 1st harvest
- Torrential Rain affected 50% 2nd harvest
How hot will the next three to six months be?

**FORECAST:**
1. Warmer than usual conditions are forecast for most areas between June and November.
2. Night-time temperatures between September and November may turn out slightly cooler than usual in Guyana.

**IMPLICATIONS:**
- Heat stress in the vulnerable population & small livestock from July to September in the Bahamas and Greater Antilles;
- August to October in the Lesser Antilles;
- September to November in the Guianas.
- Cooling need until October will potentially be higher than the previous two years.
Panama

Environmental Justice
Environmental laws & governance
Drilling wells in drought periods
Gastro-intestinal diseases
Economic implications

WORLD NEWS

Drought hits Panama Canal shipping, highlights climate change fears
Updated Apr 30, 2019; Posted Apr 30, 2019

In this April 21, 2019 photo, a cargo ship transits the Panama Canal in its way to the Atlantic Ocean, while tree trunks that used to be submerged are exposed due to the low water levels of Gatún lake, Panama. An intense drought related to this year’s El Nino phenomenon has precipitously lowered the level of Panama’s Gatún Lake, forcing the country’s Canal Authority to impose draft...
disaster notifications are issued by municipalities,
- between 1991 and 2010, there were close to 17000
- drought events recorded in 2 944 municipalities, making it the most frequent disaster by type.
- Of the 96 million people affected by natural disasters in these 20 years,
  - 48 million (50%) were affected by drought (flash floods and other floods made up to 40%); and
  - over a total of 2475 registered deaths, roughly 10%, were drought related
Dominica & Grenada

• Water storage in drought conditions
• KAP

• Entomological surveillance
• Mosquito proofing rainwater barrels
Barbados

Declared Water Scarcity
Demand outstrips supply
Salt water intrusion into aquifer

At the start of 2017, the Caribbean Drought and Precipitation Monitoring Network (CDPN) warned eastern Caribbean countries that they were facing “abnormal climate conditions” and possibly another full-blown drought.

For Barbados, it was dire news. Previous drought conditions impacted every sphere and sector of life of this historically water-scarce country. But a new project promises a new water future for Barbadians by increasing the awareness of islanders to the water cycle and the likely impacts of climate change on the island’s drinking water supply.
Sahara Dust

Sahara soil moisture
Sahara dust transport to the Caribbean
Response Mechanisms

• Early Warning Systems:
  • Allows change of crops and preservation of valuable seeds (short-cycle and drought-tolerant seed varieties)
  • Allows preparedness measures to be implemented (water reservoirs, techniques for efficient use of rainfall and reduction water runoff and evaporation)

• Surveillance for health risks:
  • For the most immediate and visible (infant diarrhoeal diseases)
  • For longer-term yet visible impacts (malnutrition), to the less visible and delayed in time (mental health conditions & other chronic diseases)
  • Environmental Health indicators / Syndromic surveillance

• National Multi Hazard Disaster Management Plans

• Subsidies:
  • Cash transfer mechanisms (like cash-for-work)
  • Social programmes such as the conditional cash transfer programme known as ‘Bolsa Familia’
  • Health programmes such as ‘Family Health’
OPS/OMS

Integration
THANK YOU!

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