

Building Drought Resilience

Towards Proactive Drought Policy and Management in Brazil

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Adaptation Futures 2016

SP 8.4 – Droughts from a social, economic and technical perspective

Tuesday, May 10



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Acknowledgments

- **Team from the Water, Climate, Agriculture and Urban GP's:** Erwin De Nys, Program Leader (TTL); Nathan Engle, Climate Change Specialist (co-TTL); Carmen Molejón, Water Resources Specialist; Paula Freitas, Sr. Water Resources Specialist; Thadeu Abicalil, Sr. Water and Sanitation Specialist; Juliana Garrido, Sr. Water and Sanitation Specialist; Diego Arias, Sr. Agricultural Economist; Frederico Pedroso, Disaster Risk Management Specialist
- **Donors:** SFLAC and WPP
- **Technical partners:** NDMC, CONAGUA, UPV, Canal Isabel II



Northeast Brazil



- Northeast - 9 States
- 969,589 km² (10.5%)
- Population: 22 million (11.8%), 38% rural
- GDP NE: 13.4%
- Mostly semi-arid climate
- Temporal and spatial variability of rainfall
- High evaporation
- Mostly intermittent rivers

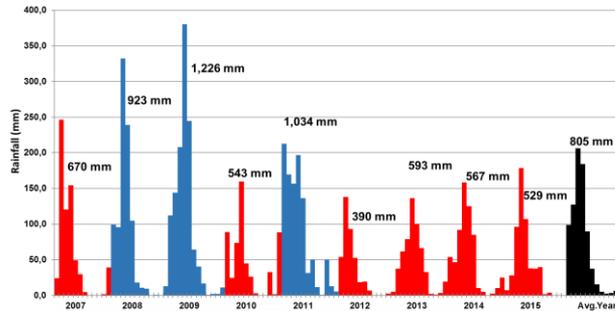


Northeast Brazil



Droughts in the Northeast

- Current drought in the Northeast (since 2010) is the **worst in the past several decades**. *Ex. situation for Ceará state:*

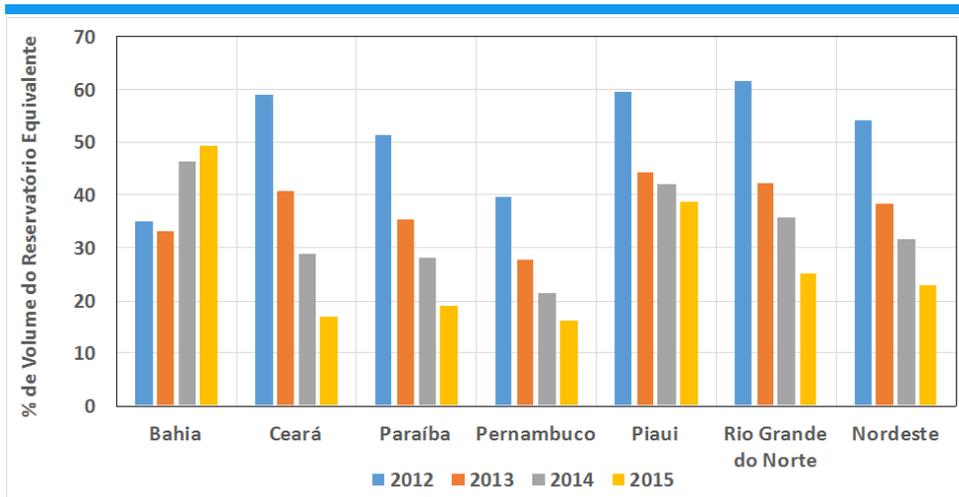


Source: Ceará State Meteorological and Water Resources Foundation (FUNCEME)

- Significant losses** of assets (e.g., crops and cattle – heritage breeds, genetic diversity, etc.)



Impact on reservoirs across the Northeast



Source: National Water Agency (ANA)



Response to the drought

Emergency approach

- Emergency actions (water trucks, wells, sell of corn, social protection and compensation programs, etc.)
- Ad hoc committees



Changing the paradigm

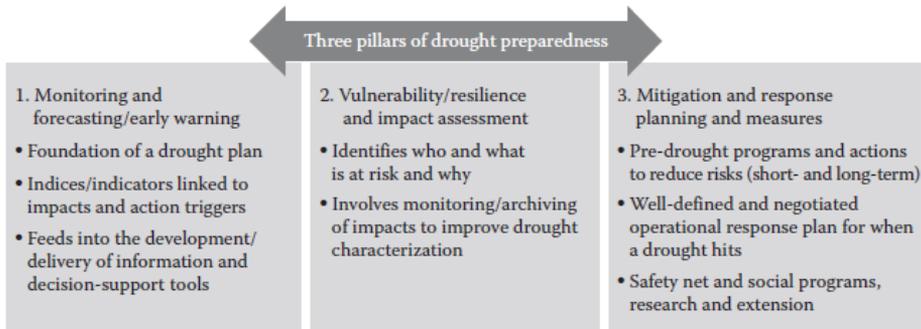
- Current drought is an opportunity for shifting the paradigm – moving from reactive to proactive management
- Brazil participation at High Level Meeting on National Drought Policy (2013)



- Leadership of Ministry of National Integration

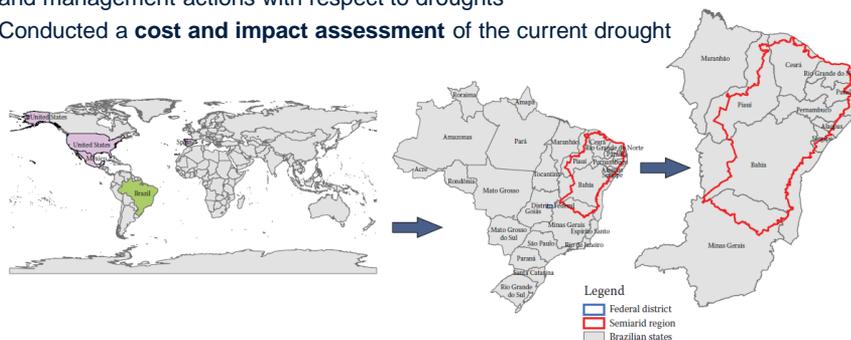


From reactive crisis management... to proactive preparedness planning and management

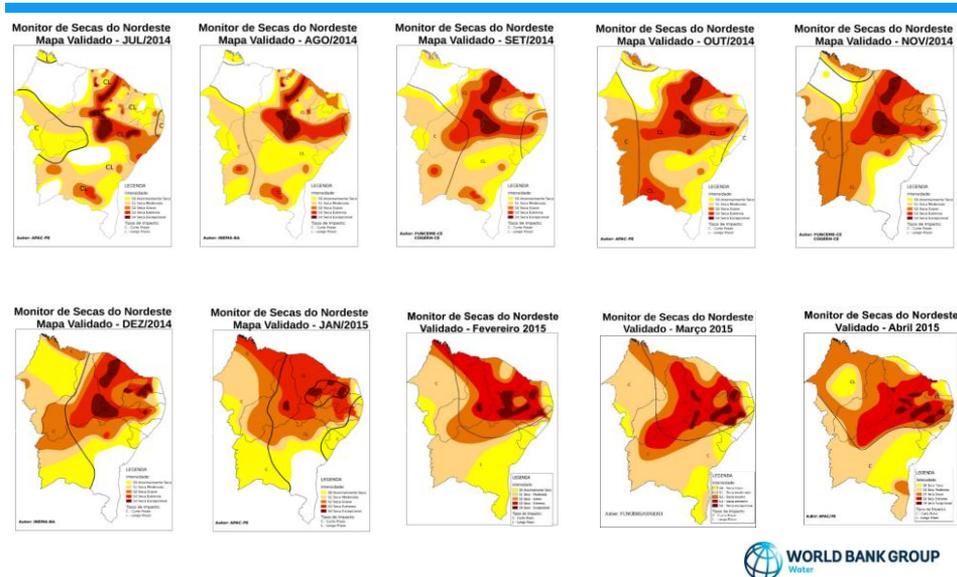


World Bank convening and assistance with technical and institutional upgrades

- Brought together expertise from Mexico, Spain, and the US to help convene a transparent and open forum for the Northeast and to **facilitate a national drought policy dialogue**
- **Helped create the Northeast Drought Monitor** for systematically monitoring, forecasting, and reporting/verifying droughts and their impacts to provide a more common, objective, and nuanced understanding of drought in the region
- **Developed five drought preparedness plans** at multiple scales that trigger policy and management actions with respect to droughts
- Conducted a **cost and impact assessment** of the current drought



Defining drought via the Northeast Drought Monitor



Drought preparedness plans

- Grounded in the three pillars framework
- Long-term drought mitigation investment plans and short-term protocols of response actions
- Developed with diverse types of communities/users
 - River basin
 - *Urban* water systems (hydrosystems and water utilities)
 - Collectively managed small dam
 - *Rural* rainfed agriculture at the municipal level
- Operational in these communities/scales
- Initially planned to illustrate utility and examples of “what could be”, but several are being scaled-up

Challenges (and opportunities)

- **Political will**
 - Take advantage of the momentum; drought is a chance to raise political attention to water stress and climate change
 - Leadership (top-down and bottom-up) is critical in moving towards a more permanent legal and institutional framework
- **Convening forces**
 - Adapt experiences from other countries to the Brazil context
 - Coordination between federal and state entities (monitoring and response) is the most difficult, but impactful, part of the process
- **Technical upgrades as the foundation**
 - Science (Monitor) provides concrete achievements and processes to anchor and help advance the conversation in a practical way, building capacity and buy-in along the way
 - Transparency and trust are key – making information available to all
 - Value the regional and local perspective; stimulate social participation



Available material

- **Material in Portuguese:**
 - 21 project reports
 - [Brazil Water Series Publications](#)
- **Material in English:**
 - Book: “Drought in Brazil: Proactive Management and Policy” (CRC/Taylor & Francis Press, **available in July 2016**)
 - Short and long video of the Northeast Drought Monitor
 - Drought impacts assessment report



THANK YOU!



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