WORLD METEOROLOGICAL ORGANIZATION

GLOBAL WATER PARTNERSHIP ORGANISATION

INTEGRATED DROUGHT MANAGEMENT PROGRAMME

ASSOCIATED PROGRAMME ON FLOOD MANAGEMENT

Integrated Drought Management Programme (IDMP) 2026

A 12-Target Global Framework For Measuring Drought Resilience
Insights from a Multi-Country Review

Monalicha Sarma
Drought Resilience Researcher
Technical University of Munich (TUM)

Dr. Michael Brüntrup
Senior Researcher (IDOS)
UNCCD IWG-Drought Expert

Geneva | 5 March 2026

The Governance Gap in Global Drought Resilience

The Current Paradigm

- Countries remain locked in reactive, crisis-driven drought responses
- Costly, short-term responses that don’t reduce underlying vulnerabilities
- Climate change intensifies drought frequency and severity, further weakening resilience

The Missing Architecture

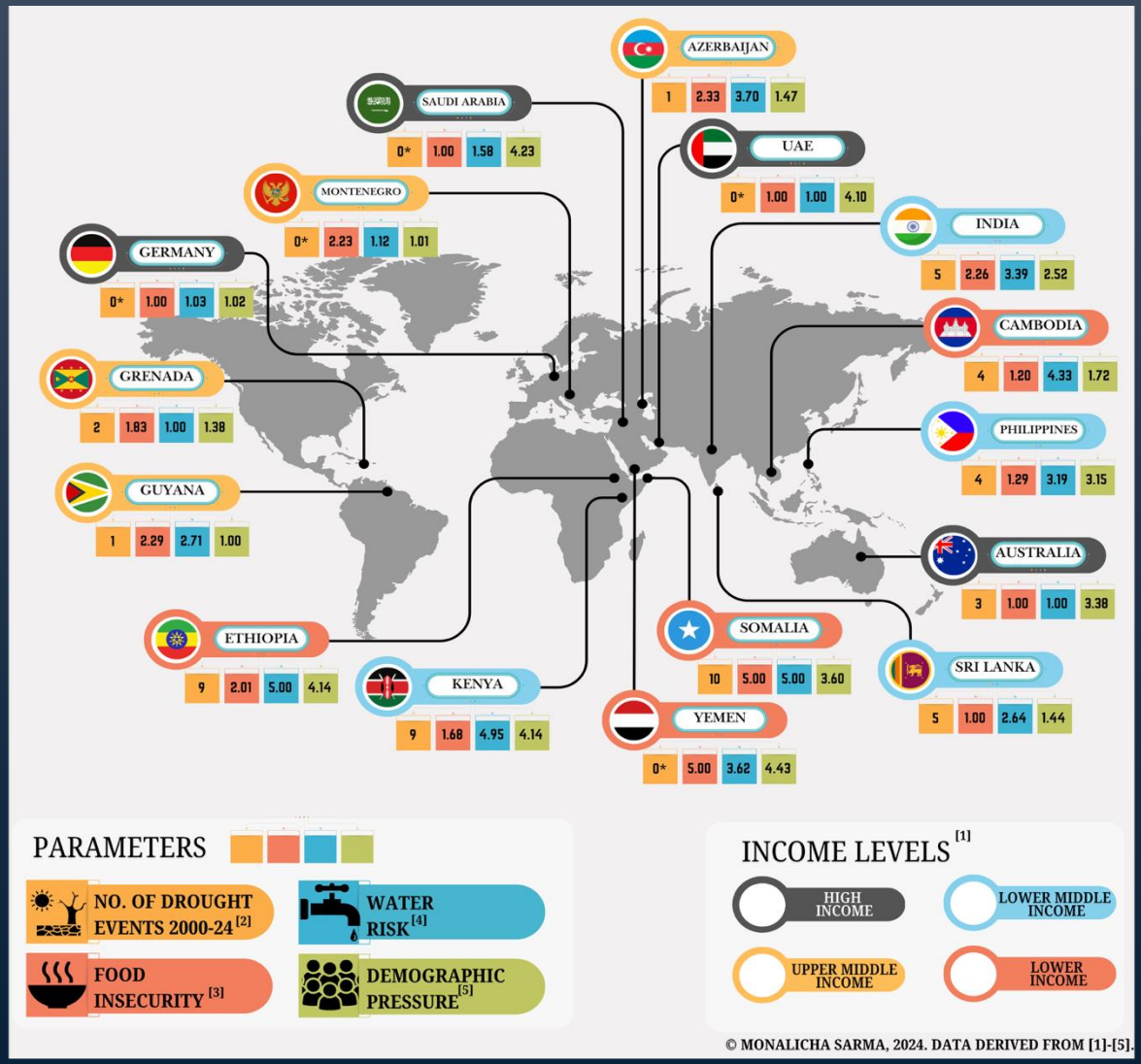
- UNFCCC has National Adaptation Plans (NAPs)
- CBD has Kunming–Montreal Global Biodiversity Framework (GBF)
- UNCCD lacks drought-specific targets and standardized resilience indicators

The Consequence

- Weak policy evaluation of national drought preparedness strategies
- Limited cross-country comparability of drought resilience efforts
- Slower shift from reactive crisis response to proactive drought risk management

Global Vulnerability and Policy Context (Our Analysis)

- **Scope:** Drought vulnerability map of 16 selected countries, grouped by World Bank income levels
- **Four Risk Metrics:**
  (i) drought event frequency,
  (ii) food insecurity,
  (iii) water risk, and
  (iv) demographic pressure
- **Global Disparities:** Compounding vulnerabilities and differences in countries' capacity for preparedness, response, and recovery.



Map: Global Drought Vulnerability Map (Sarma & Brüntrup, 2025)

12-Target Framework for Proactive Drought Management

- 12 global targets, 45 sub-targets, and 129 indicators
- Four thematic focus areas:
  (i) Fundamental Needs & Agricultural Resilience
  (ii) Proactive Monitoring & Crisis Response
  (iii) Ecosystem & Resource Sustainability
  (iv) Institutional Strengthening & Financial Resilience
- 129 SMART-compliant indicators aligned to NAP / Sendai / SDG / DRAMP / GBF / World Bank Scorecard / AQUASTAT

Figure: 12-target drought resilience framework (Sarma & Brüntrup, 2025)

Testing Applicability: Operationalizing our SMART indicators

Indicator 6.2.1: Actionable Early Warning

- **Goal:** Regular drought forecasts/bulletins delivered via mobile, internet and outreach channels
- **Alignment:** Linked to World Bank Group Scorecard (WBG) 11.1
- **Target:** Annual beneficiaries; 258.4M by 2030

Table 2
Some examples of operationalized SMART Indicators

Indicators	Linked Global Indicators	Unit	Data Source	Frequency	Time-bound target value
1.6.1 Ensure year-round access to safe drinking water	SDG 6.1.1 Proportion of population using safely managed drinking water services	Percent (%)	WHO/UNICEF Joint Monitoring Programme (JMP)	Annual	100% by 2030
6.2.1 Enhance early warning systems by disseminating regular forecasts and bulletins, ensuring reliable access via mobile networks, internet systems, and outreach	WBG 11.1 State of online e-government service provision	Beneficiaries (millions)	WB Operations Portal; ISR; IFC Results Measurement System; MIGA Results Measurement System	Annual	258.4M expected by 2030
7.3.1 Develop integrated health and environmental surveillance systems to monitor drought-related health impacts and maintain community safety	Sendai (b)	Rate per 100,000 population	UNDRR Sendai Framework Monitor / national sectoral impact reporting	Annual	By 2030: lower average affected people per 100,000 (2020–2030) vs (2005–2015)

Table: Examples of operationalized SMART indicators (Sarma & Brüntrup, 2025)

How our 12-Target Global Framework helps the global community? Key takeaways:

- **Holistic view:** Drought resilience is whole-of-society, extending beyond technical systems to include social, governance, and financial dimensions.
- **Global standardization**: A foundational monitoring framework to support drought risk reduction evaluation, synergy, and accountability under UNCCD.
- **Accountability:** Enables monitoring, policy learning, and finance mobilization, similar to UNFCCC Global Stocktake (GST) process
- **Low-burden, low-capacity ready:** Indicators reuse established international methods; where gaps exist, countries can use proxy or administrative data to minimize new measurement demands.

Thank you! Any questions?

Contact:

Monalicha Sarma — monalichasarma@gmail.com

Dr. Michael Brüntrup — michael.bruentrup@idos-research.de

Paper Access: Scan QR code