

USE OF INDIGENOUS KNOWLEDGE IN FLOODS AND DROUGHTS EARLY WARNING FOR IMPROVED RESILIENCE

NAMIBIA • MALAWI • SOUTH AFRICA

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WHY THIS MATTERS

- Southern Africa is highly exposed to recurring floods and droughts.
- Climate change is contributing to the recurrence and escalation of these hazards.
- Current early warning and response systems often emphasise scientific solutions.
- Community-based monitoring and Indigenous forecasting remain under-integrated.
- Indigenous knowledge connects people, nature and local ecological signals.

OBJECTIVES

- Identify Indigenous early warning signs for floods and droughts.
- Document local indicators used in Namibia, South Africa and Malawi.

METHODOLOGY

- Review of relevant literature.
- Focus groups.
- Key informant interviews.
- Household surveys.
- Comparative analysis across the three countries.

STUDY SETTING



Study sites include communities in Namibia, Malawi and South Africa.

KEY INDIGENOUS SIGNALS



DROUGHT

Animal movement
Cattle losing weight
Bird calls / absence
Wind patterns



FLOOD

Birds nesting high
River movement
Frogs & geese
Heavy rain / thunder



VEGETATION

Early blossoming
Fruit abundance
Leafing patterns
Tree responses

COUNTRY HIGHLIGHTS

SOUTH AFRICA

Drought indicators include animal migration, livestock behaviour, delayed vegetation changes, bird patterns, wind and other ecological signals.

NAMIBIA

Flood and drought signals include ants moving away from rivers, birds nesting high, frogs, early tree blossoming, fruiting patterns and caterpillars.

MALAWI

Local indicators include increased ants, bird activity, Acacia flowering, hippo movement, late rainfall, unusual animal sounds, red moons and other seasonal signs.

WHAT THE STUDY SHOWS

LOCAL KNOWLEDGE IS AN EARLY-WARNING ASSET

- Communities recognise recurring relationships between animals, plants, weather and water.
- Indicators differ by place but show important similarities across Southern Africa.
- Local knowledge can complement scientific early warning systems.
- Community participation can strengthen preparedness, ownership and resilience.

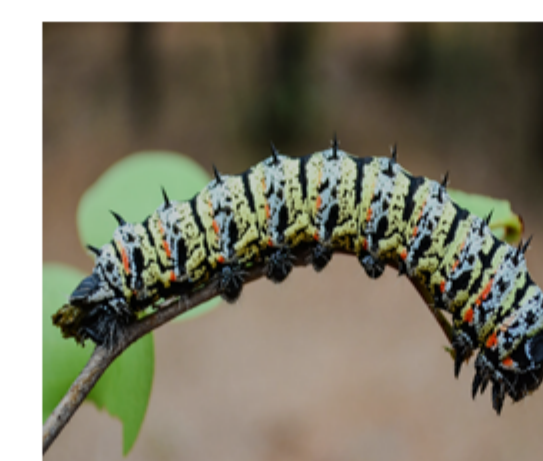
EVIDENCE FROM NATURE



Ant activity



Bird presence



Caterpillars



Tree / bark signal

CONCLUSION

- Integrating Indigenous Knowledge into disaster early warning systems is crucial for resilience in vulnerable communities.
- It leverages local expertise and fosters community ownership of preparedness.
- The knowledge documented here can inform early warning systems that respond to local needs and contexts.
- The approach supports broader resilience-building against climate-related disasters.

FROM LOCAL SIGNS TO STRONGER EARLY WARNING

Integrate community knowledge with scientific systems to strengthen preparedness, response and resilience.

RECOGNISE

Document local indicators and the knowledge behind them.

INTEGRATE

Connect Indigenous signals with existing early warning systems.

EMPOWER

Build community ownership of disaster preparedness.

KEY FRAMEWORKS: Agenda 2063 • Sustainable Development Goals • African Union multi-hazard early warning efforts



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