Leveraging Indigenous Knowledge Systems for Climate Resilience and Health in LMICs

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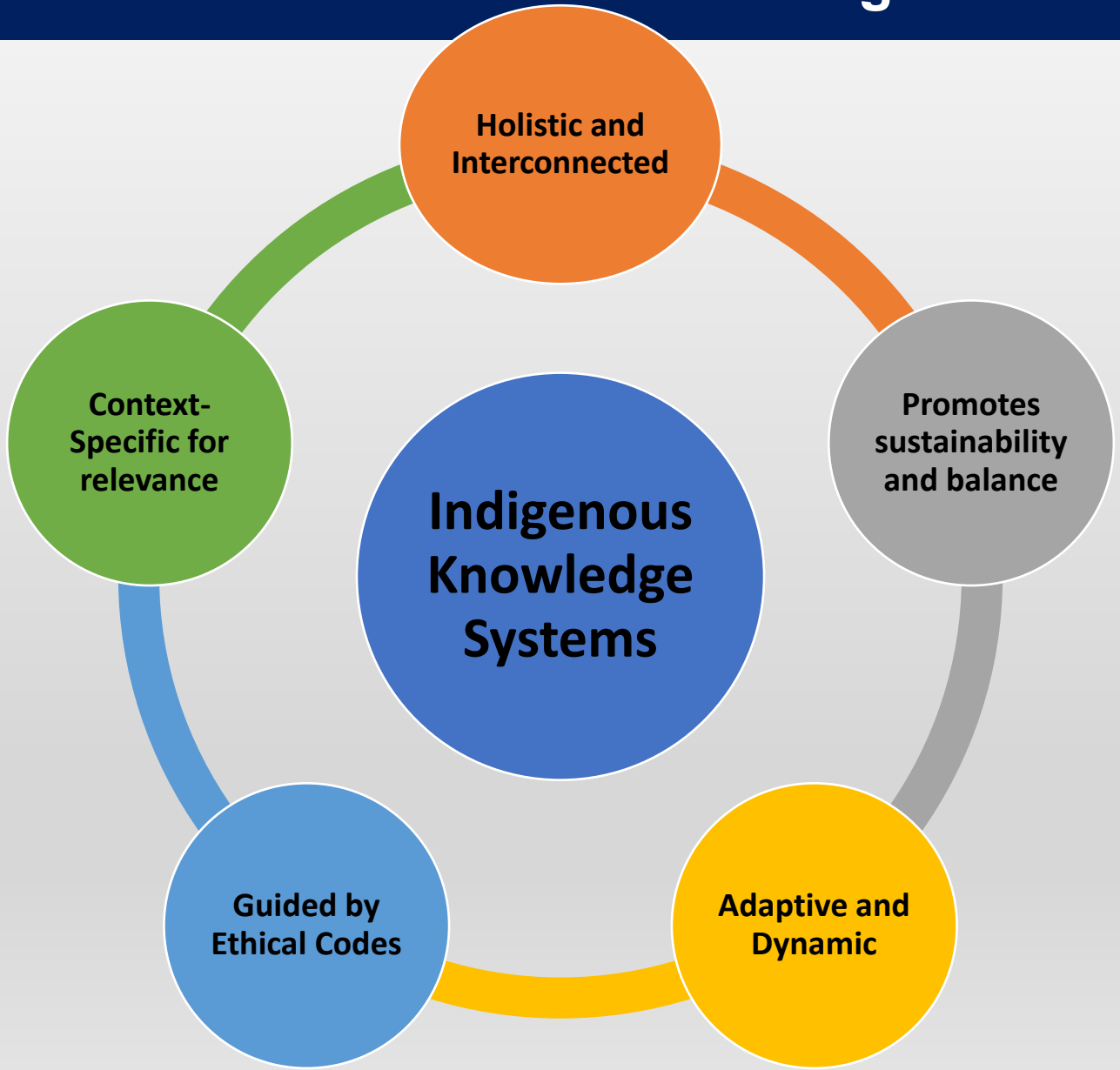
Exploring the Role of Indigenous Knowledge Systems in Creating Sustainable Solutions for climate resilience

Indigenous Knowledge Systems" (IKS) organized understandings, skills, and philosophies of local communities that are developed through interactions with their natural surroundings over time

Climate resilience is the capacity of individuals, communities, ecosystems, and systems to anticipate, prepare for, respond to, and recover from the impacts of climate change.

Some characteristics of Indigenous Knowledge Systems making them relevant for Climate Change Resilience



Some important domains of IKS

Agricultural Practices:

Crop rotation, polycropping, and seed-saving for food security

Health & Traditional Medicine:

Use of local plants for sustainable health remedies

Natural Resource Management: Sustainable practices like controlled burns and harvest limits

Water Management: Rainwater harvesting, aquaculture, and protection of sacred water sources

MABISA
Malaria and Bilharzia in Southern Africa

Social , Environmental and Climate Change impacts on Vector-Borne Diseases in Arid Areas of Southern Africa

Working with Underserved Communities to Combat Climate Change using Citizen Science and Indigenous knowledge systems in Gwanda district Zimbabwe

NUST "Think in other Terms"

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

World Health Organization
TDR For research on diseases of poverty

Gwanda district suitability for a CBEWS for Malaria

Pictures courtesy of
The Standard & CRS

- Gwanda District, located in Zimbabwe's Matabeleland South Province, is predominantly semi-arid, with a hot, dry climate.
- Key effects of climate change in Gwanda include:
  - **Increased Drought Frequency**
  - **Water Scarcity**
  - **Soil Degradation and Desertification**
  - **Impact on Livestock**
  - **Community Vulnerability**
- 60% of the population are children below the age of 19
- The burden of disease and climate change are felt by women and children mostly

Development of the CBEWS

Identification of IK on management and prevention of malaria.

Identification of natural Indicators for predicting occurrence of malaria

Citizen Science Approach

Stakeholders Developing the CBEW

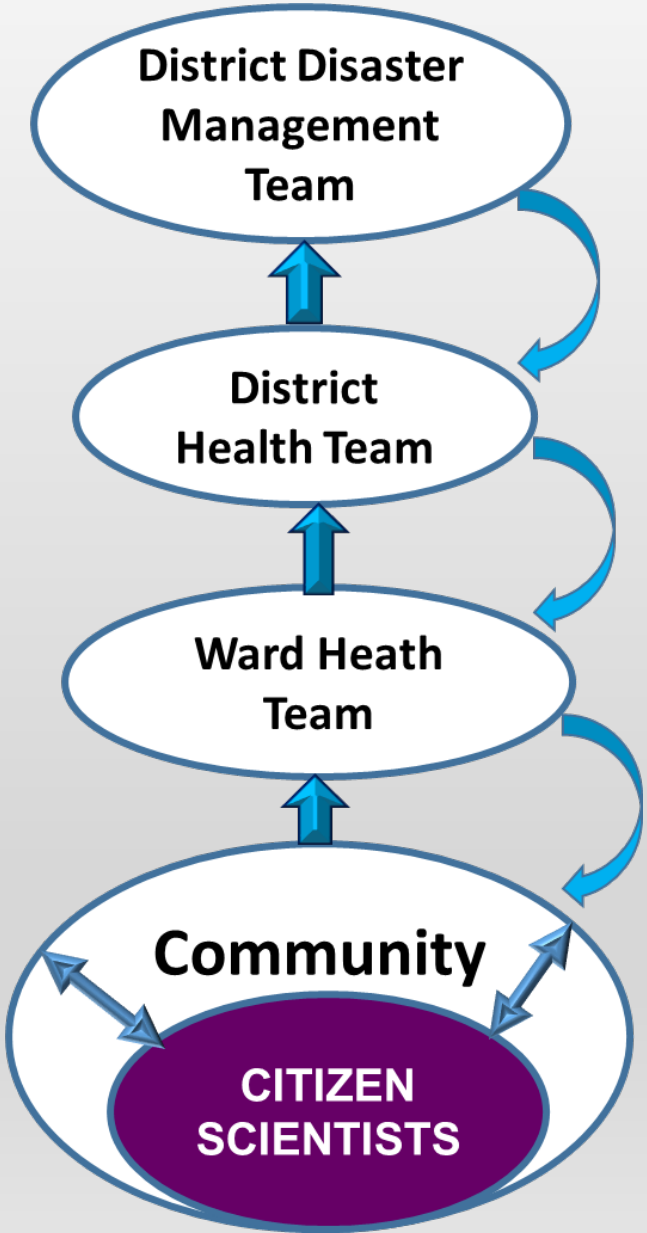
ie MOH , MOA, Traditional Leaders , Community members , Young People

Intergrating the CBEWS within the existing healthcare system

Natural Indicators

- Plant phenology
- Meteorological indicators:
- Other indicators: behaviours and movement of birds, insects and animals.

Community Based Malaria Early Warning System



Specific duties of Citizen Scientists

OBSERVATION OF CLIMATIC FACTORS

- Plant phenology: the most used indicator in predicting malaria
- Meteorological indicators: wind patterns, direction and variation were mentioned as monitoring indicators for malaria
- Other indicators: behaviours and movement of birds, insects and animals.

AWARENESS CAMPAIGNS

- to inform people on the signs and symptoms of the disease,
- the need to seek early treatment
- the need to allow spraying of their houses by the Ministry of Health and Child Care.

PREDICTION

Possibility to predict the occurrence of malaria using rainfall predictions confirmed by KI

EVALUATION ACTIVITIES:

- accuracy of the predictions,
- effectiveness of the communication system and the timeliness of the response activities

PREVENTING

Identification of potential mosquito breeding places and covering the places.

Challenges Utilising Indigenous Knowledge Systems

- Intellectual Property Issues: Risks of exploitation without consent
- Erosion of Knowledge: Risk of loss due to globalization and modernization
- Need for Equitable Partnerships: Ensuring indigenous voices lead IKS-based projects

Conclusion: Importance of Indigenous Knowledge Systems

- Preserving IKS for Climate Health: Vital for sustainability and resilience in LMICs
- Global Impact: Offers holistic solutions for environmental and social challenges
- Final Thought: Recognizing, respecting, and integrating IKS is essential for a sustainable future