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# **MEASURING THE DISASTER READINESS OF RESEARCH AND EDUCATION NETWORKS IN SUB-SAHARAN AFRICA**

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# INTRODUCTION

- ❑ NRENs provide essential digital infrastructure for research, teaching, and collaboration.
- ❑ They enable global knowledge exchange and access to research resources.
- ❑ Reliable NREN services sustain education and research continuity.
- ❑ Strengthening NREN resilience is a key national priority.

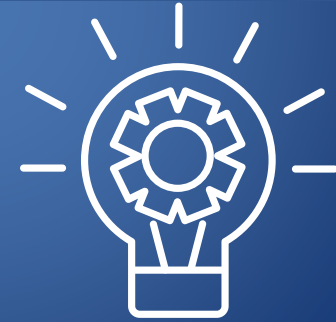


# PROBLEM STATEMENT

- ❑ Sub-Saharan African NRENs face power outages, cyber threats, and infrastructure disruptions.
- ❑ Growing reliance on digital connectivity makes ensuring operational continuity critical for research and education networks
- ❑ No regional framework exists to assess or benchmark disaster preparedness.
- ❑ Lack of standardized tools limits gap identification and improvement efforts



# RESEARCH OBJECTIVES



Develop a region-specific assessment framework.



Identify strengths and weaknesses in disaster preparedness across sub-Saharan RENs.



Provide a standardized tool for NRENs to self-assess, compare, and prioritize improvements.

# FRAMEWORK DEVELOPMENT APPROACH

## □ Qualitative Review of Global Standards:

- **ISO 22301:** governance, planning, documentation, and continuous improvement.
- **GÉANT S7 Framework:** domain-based structure and five-level maturity scaling.
- **ITU-D Guidelines:** context adaptation, emphasizing policies and capacity

## □ Thematic mapping and gap analysis: identified strengths, gaps, and relevance to African NRENs

## □ Localization: Tailored to address power, funding, and policy gaps in African NRENs

# EIGHT-DOMAIN FRAMEWORK

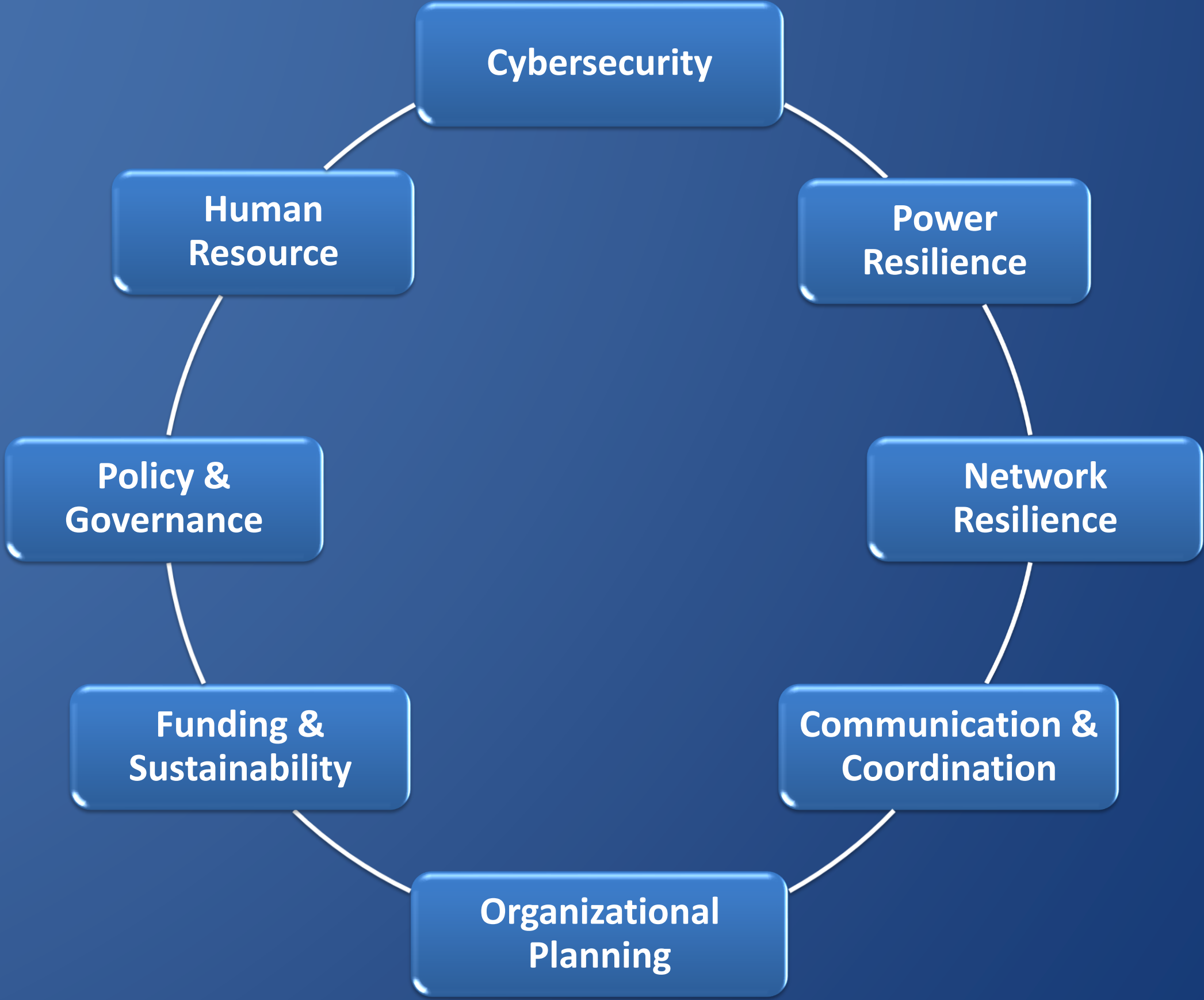
Uses a 1–5 scoring scale to measure performance consistently.

Developed to assess disaster preparedness and continuity readiness in NRENs.

Covers eight key domains across technical, organizational, and operational areas.

Provides a standardized approach for identifying strengths and gaps.

# THE EIGHT DOMAINS



# SCORING SCALE

Score	Description
1	<b>Absent</b> – No measures or practices exist
2	<b>Basic</b> – Some initiatives exist but are informal or ad hoc
3	<b>Developing</b> – Formal measures exist but are partial or inconsistently applied
4	<b>Established</b> – Policies and systems are in place and regularly used
5	<b>Optimized</b> – Fully implemented, regularly tested, and continuously improved

# FRAMEWORK DEMONSTRATION

Multichannel communication tested  $\geq 2$  times per year, with lessons learned integrated.

5

Communication procedures documented, tested at least annually with internal and external partners.

4

Documented communication plan exists, but rarely tested.

3

Ad hoc or informal communication during crises only.

2

No formal communication procedures in place.

1

## Communication and Coordination

# PRACTICAL IMPLEMENTATION BY NRENS

- ❑ NRENS can assess disaster readiness using the Eight-Domain framework.
- ❑ Results highlight strengths, weaknesses, and priority areas.
- ❑ Findings guide targeted strategies and investments.
- ❑ Regular reviews track progress and support continuous improvement.



# LIMITATIONS & WAY FORWARD

- ❑ Data collection from Sub-Saharan NRENs is still in progress to validate the framework
- ❑ After data collection, findings will be analyzed to assess readiness levels.
- ❑ Insights will guide refinement and regional adaptation of the framework.



# CONCLUSION

- ❑ The framework offers a structured, evidence-based way to assess NREN disaster readiness.
- ❑ It uses clear scoring across eight domains for consistent comparison.
- ❑ Supports self-assessment, benchmarking, and resilience planning.
- ❑ Flexible and scalable for both emerging and mature NRENs.
- ❑ Future work will refine it through broader validation and feedback.

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# THANK YOU

## Q & A

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