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RESILIENTAFRICA NETWORK

A Systematic Approach to Resilience Assessment, Measurement and Analysis
Led by Makerere University

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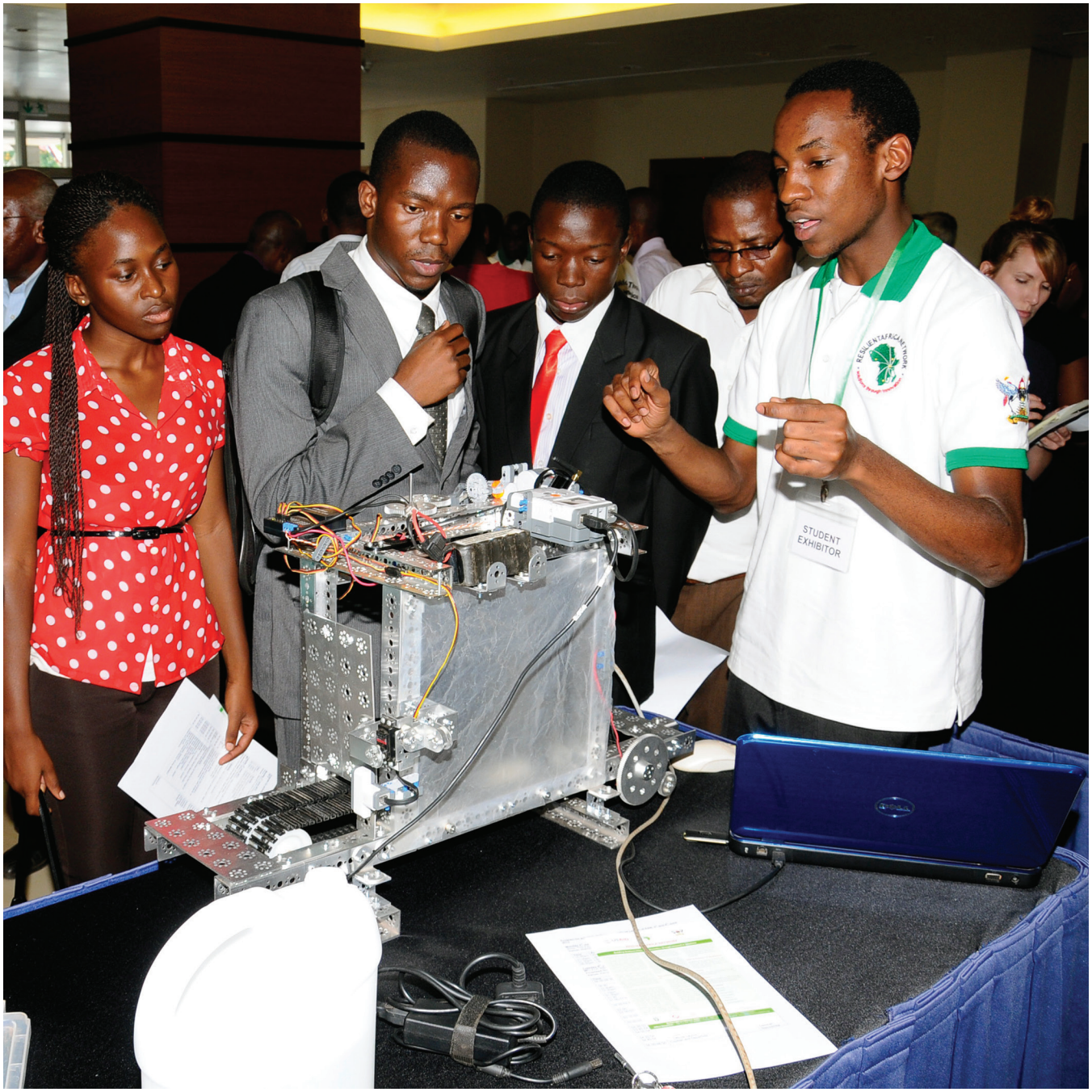
STUDENT
EXHIBITOR

RESILIENTAFRICA NETWORK

Introduction

The ResilientAfrica Network (RAN) is a partnership among sub-Saharan African and American universities led by Makerere University in Uganda. The RAN is co-directed by Tulane University and includes Stanford University, the Center for Strategic and International Studies (CSIS), and four regional Resilience Innovation Labs (RILabs) located in Ghana, Ethiopia, Uganda and South Africa. The RAN is supported and funded by the United States Agency for International Development's Office of Science, Technology and Innovation (USAID). Its goal is to strengthen the resilience of people and systems in Africa by leveraging the knowledge, scholarship and creativity that exists across the RAN to analyze vulnerabilities, define resilience dimensions and apply innovative solutions.

The RAN is based on the belief that faculty, students, researchers and development experts working together can define and analyze specific resilience dimensions using a set of innovative approaches to engage with local communities. Targeted interventions can then be designed and applied to help build resilience. Evaluating the impact of these interventions will help to inform policies, programs, and resource allocations. Through USAID's Higher Education Solutions Network, RAN is empowering partner universities across Africa to develop, adopt and test its Resilience Framework. In collaboration with Stanford University, Tulane University, and the Center for Strategic and International Studies, the RAN has established four Resilience Innovation Labs ("RILabs" in Eastern Africa, Horn of Africa, West Africa and Southern Africa) through which it is equipping 18 communities and local stakeholders to more effectively recover from and respond to complex challenges by finding or catalyzing successful local solutions, sharing them with other vulnerable communities, and building a ground-breaking community of practice and platform for collaborative learning.

Theory of Change

The resilience of people and systems in Africa will be strengthened by leveraging the knowledge, scholarship and creativity that exists across the ResilientAfrica Network (RAN) to incubate, test and scale innovations that target capabilities and reduce vulnerabilities identified by a scientific, data-driven and evidenced-based resilience framework for sub-Saharan Africa.

Key Terms

Resilience: Resilience is the capacity of people and systems to mitigate, adapt to, recover[1], and learn from shocks and stresses in a manner that reduces vulnerability and increases wellbeing[2].

Disaster: A serious disruption of the functioning of a community or society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources[3].

Hazard: A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage[4].

Vulnerability: The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard[5].

Disaster risk: The potential disaster losses in lives, health status, livelihoods, assets and services, which could occur to a particular community or society over some specified future time period. Disaster risk is assessed according to prevailing hazards and patterns in population and socio-economic development; and it depends on hazard probability, potential loss and capacity of the community or system at risk[6].

Adaptive capacity[7]: The ability to quickly and effectively respond to uncertain changes in environmental, climatic, social, political, and economic conditions are a central factor in achieving resilience at all levels. In contrast to reactive coping strategies, adaptive strategies are proactive and entail making informed choices about alternative livelihood strategies in light of changing conditions.

Shocks and Stresses: Shocks are natural, social, economic, and political in nature. They can occur as slow or rapid onset shocks (e.g., earthquakes, floods, disease outbreaks) or longer-term stresses or trends (e.g., environmental degradation, price inflation, political instability, conflict) and can affect individuals and specific households (idiosyncratic) or entire communities/ populations (covariate). Shocks can be transitory, seasonal, or structural and their frequency, severity, and duration can vary widely[8].

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[1] RAN definition of resilience: It is worth noting that recovery is not necessarily about helping people get back to the status quo before the stress or shock, rather people should bounce back less vulnerable to future shocks and stresses.

[2] RAN recognizes that people themselves are systems. However, since building resilience is ultimately about improving wellbeing of people, the term "people" is maintained within the definition.

[3] DRLA Strengthening Leadership in Disaster Resilience Program Definition: www.drlatulane.org

[4] Ibid

[5] Ibid

[6] Ibid

[7] TANGO International. 2012c. Study Protocol for the Quantitative Survey of Southern Somalia Resilience and Stabilization Study. Prepared for Mercy Corps by TANGO International. Draft. September 2012.

[8] Ibid

RESILIENCE FRAMEWORK

Purpose of the RAN Resilience Framework

(1) To understand shocks and stresses that affect populations and systems and the factors that render them vulnerable to those shocks and stresses

(2) To understand what makes people and systems resilient (what makes them capable to withstand or adapt to shocks and stresses in a manner that makes them less vulnerable to future risks)[9]

(3) To identify resilience dimensions and indicators and assessing system resilience

(4) To identify entry points and prioritize interventions to strengthen capacities and reduce vulnerabilities to build systems' resilience

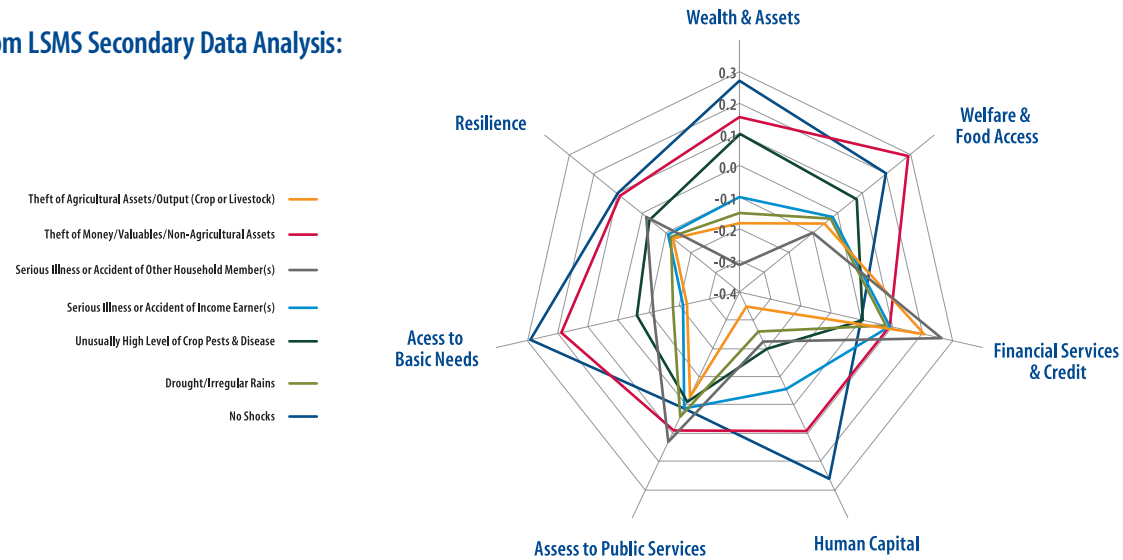
Process for developing RAN's Resilience Framework

This framework is based upon the Tulane University Disaster Resilience Leadership Academy (Tulane/DRLA) conceptual resilience assessment model and through RAN stakeholder engagement and a series of workshops held at each of the RILab sites (Kampala, Uganda, Ho, Ghana Jimma, Ethiopia and Pretoria, South Africa), revised to reflect the contextual drivers of risk, capacity, and resilience in target communities in sub-Saharan Africa. The Resilience Assessment, Monitoring, and Evaluation (RAME) Workshops, held July 2013, were further supplemented by initial secondary data analysis and structured literature reviews carried out by each RILab and represent all of the key steps in an iterative process of developing the RAN Resilience Framework.

[9] *The framework outlines a number of illustrative questions to guide assessment but this does not imply that it is a data collection tool. A different set of contextually relevant tools may be required to guide interviews and group discussions with stakeholders.*

Figure 1: RAN Resilience Framework

Figure 2: Excerpt from LSMS Secondary Data Analysis:



Excerpt from LSMS Secondary Data Analysis:

Tulane University's Disaster Resilience Leadership Academy (DRLA) is analyzing existing data sets through a "resilience lens" to explore dimensions of vulnerability, capacity, and resilience to guide each RILab in identifying and selecting priority areas of inquiry for the primary data collection phase. For example, the DRLA used the World Bank's Living Standards Measurement Survey (LSMS) Panel datasets in Eastern and the Horn of Africa to identify differences in resilience among various socio economic groups according to risk and vulnerability, livelihoods, capacities, seasonality and geographical area. For example the study shows that while exposure to at least one shock was associated with lower resilience scores on all dimensions and in all sample subpopulations studied, there was no clear dose response related to the number of shocks and resilience measures. This may have to do with a more complex pattern of shock exposure according to wealth grouping. For example, as shown in figure 2, wealthier households experienced higher levels of property crime and agricultural thefts, while the less well-off more frequently were exposed to climate related shocks. A later phase in this analysis will simulate potential tipping points by moderating initial conditions of risk, vulnerability, capacities and adaptive strategies to model positive and negative responses, with the goal of maximizing positive response under differing scenarios.

Components of the RAN Resilience Framework

The goal of strengthening systems' resilience is to ultimately improve their wellbeing. This necessitates an understanding of contextual factors, resilience dimensions and adaptive strategies, and how to design interventions that build on systems' existing capabilities to strengthen their resilience. To accomplish this, the framework involves a four-step process that starts from analyzing the context, understanding and prioritizing resilience dimensions, developing relevant interventions and evaluating their effectiveness in increasing resilience (Figure 1).

Step 1. Context Analysis

Objective

The context analysis seeks to assess the causes and effects of shocks and stresses, vulnerability factors and coping strategies. From this, it will define the priority units of focus (target communities/communities of focus) for resilience assessments, priority issues of focus (stress/shock), priority geographical unit or population or system of focus as well as primary stakeholders.

Focus Questions

Resilience of whom, to what, where and when?

"Resilience of Whom?"

The answer requires identifying and describing the unit of focus. This may be geographical, such as communities and districts; a population, such as people living with HIV; processes; or institutions.

"Resilience to What?"

This requires eight steps: (i) Identifying the various hazards that affect population resilience in the unit of focus; (ii) Describing the history and frequency and magnitude of the hazards; (iii) Identifying the immediate causes of these hazards; (iv) Determining what the primary and secondary effects of these hazards to people, infrastructure and systems are; (v) Describing factors that make people, infrastructure and institutions vulnerable to the effects of these hazards and compare them in various localities within the system; (vi) Understanding how people, households, and communities manage, cope with, and adapt to these hazards; (vii) Reviewing current practices addressing these issues as well as opportunities to leverage best practices that result in greater capacity to deal with future threats; and (viii) Identifying the unit of focus' cultural, political, socio-economic and environmental drivers.

Prioritizing challenges

Having identified the vulnerabilities (shocks and stresses) that affect target communities, RILabs will then determine the vulnerabilities of greatest concern. This prioritization process may be based on relative magnitude or intensity of the challenge, the RILab's comparative advantage, enabling environment, as well as complementarity to ongoing efforts.

Methods

This being the first step in resilience assessment, exploratory methods such as literature review and secondary data analysis are more suitable. These allow flexibility within the assessment to identify as many contextual issues as possible, which can be prioritized at a later stage. The success of this process depends on appropriate stakeholder identification and engagement in determining relevant sources of information and collecting the information. At the end of the contextual analysis, RILabs will validate the selected and researched themes based on relevance and feasibility criteria (See Figure 2).

Step 2. Resilience Dimensions and Adaptive Strategies

Objective

Having prioritized focus issues and target units/systems, populations or communities, this step aims at obtaining more information (primary data) regarding the prioritized issue, the focus systems' overall capacities, as well as their adaptive strategies regarding the priority issues (dimensions of resilience) in the target community.

Focus Questions

(1) "What makes you capable to realize your aspirations (thrive)?

(2) "What makes you vulnerable (especially to a specific shock/stress prioritized in step 1)?"

(3) "What strategies have you used to effectively/ineffectively mitigate, adapt to, recover and learn from the shock/stress?"

The next step, after assessing the context, involves understanding the capacity of a system to mitigate, adapt to, learn and recover from specific shocks and stresses. In order to do so, it is first necessary to identify the system's capabilities given the many challenges and stresses it faces. Stakeholders/representatives of the system will respond to the following questions during qualitative data collection activities (focus groups, key informant interviews, etc.):

(1) What makes you capable to realize your aspirations (thrive)?

With respect to a specific shock/stress, such as floods, the second question in step 2 would address such questions as:

(1) What makes you vulnerable to floods?

(2) How did you cope during the previous floods?

(3) Since the previous floods, how are you preparing to cope in the event of future floods?

(2) What makes you capable to withstand or adapt to shocks and stresses in a manner that makes you less vulnerable to future risks

(3) What makes you capable of overcoming shocks and stresses as a result of the priority hazards that you face?

(4) What are the underlying factors that keep your household, community or systems trapped in vulnerability or fail to overcome your vulnerability (barriers to resilience)

(5) What strategies have you used to mitigate, adapt to, recover and learn from a specific shock/stress? How effective have these strategies been? (This includes both what worked and what didn't work).

Figure 3 represents the dimensions identified in Tulane University's DRLA's Haiti Humanitarian Assistance Evaluation[10] as an example of dimensions of resilience that could be identified through this process. However, not all of these dimensions of resilience are used to the same degree in response to a specific challenge/stressor. For example, different assets and coping strategies may be used in response to a flood versus a drought and therefore the next set of questions should address how this system has managed and dealt with the specific challenge/stressor prioritized in Step 1. The answers to these questions are triangulated with secondary data sets to identify protective strategies).

By understanding and analyzing the strategies used from past experiences and identifying potential future strategies, key dimensions of resilience can be identified as being the most influential to strengthening a system's capacity to mitigate, adapt to, learn and recover from a certain challenge/stress. Interventions will then be designed to address strengthening these resilience dimensions (Step 3).

Methods

Step 2 involves an initial collection of primary qualitative data to define resilience dimensions (capacities, vulnerabilities and protective strategies). In addition to identifying resilience dimensions, indicators for measuring those dimensions are defined. RAN will ultimately create a compendium of indicators that includes a menu of both standard and context-specific indicators for each dimension. This means that RIlabs that have prioritized the same resilience dimension, such as wealth, will be able to assess some common indicators as well as other context-specific indicators. This will allow combination and comparison of data across regions at the same time maintaining flexibility for context uniqueness.

These indicators will be further refined and used within secondary data analysis. RAN will identify secondary datasets relevant to each RIlab and their focus communities. Where such data are available, they will be analyzed according to applicable dimensions. This analysis will be used to triangulate stakeholder consultations and dimension prioritization. Where follow up secondary data is available, analysis will be repeated to depict changes in capacities, responses to shocks, etc.

Step 3. Resilience Interventions

Objective

Having prioritized resilience dimensions and entry points for interventions in Step 2, Step 3 involves identifying, incubating, testing and scaling innovations[11] that target capabilities and reduce vulnerabilities to strengthen a system's capacity to address a specific shock or stress.

Stanford University will provide technical support to the RAN by creating the enabling environment in all four RILabs to identify and incubate innovations and a team-based MOOC platform to test and scale innovations.

[10] *Tulane DRLA Haiti Humanitarian Assistance Evaluation: 2012 www.drlatulane.org/groups/haiti-humanitarian-aid-evaluation/final-report*
[11] *Innovations and interventions are used interchangeably*

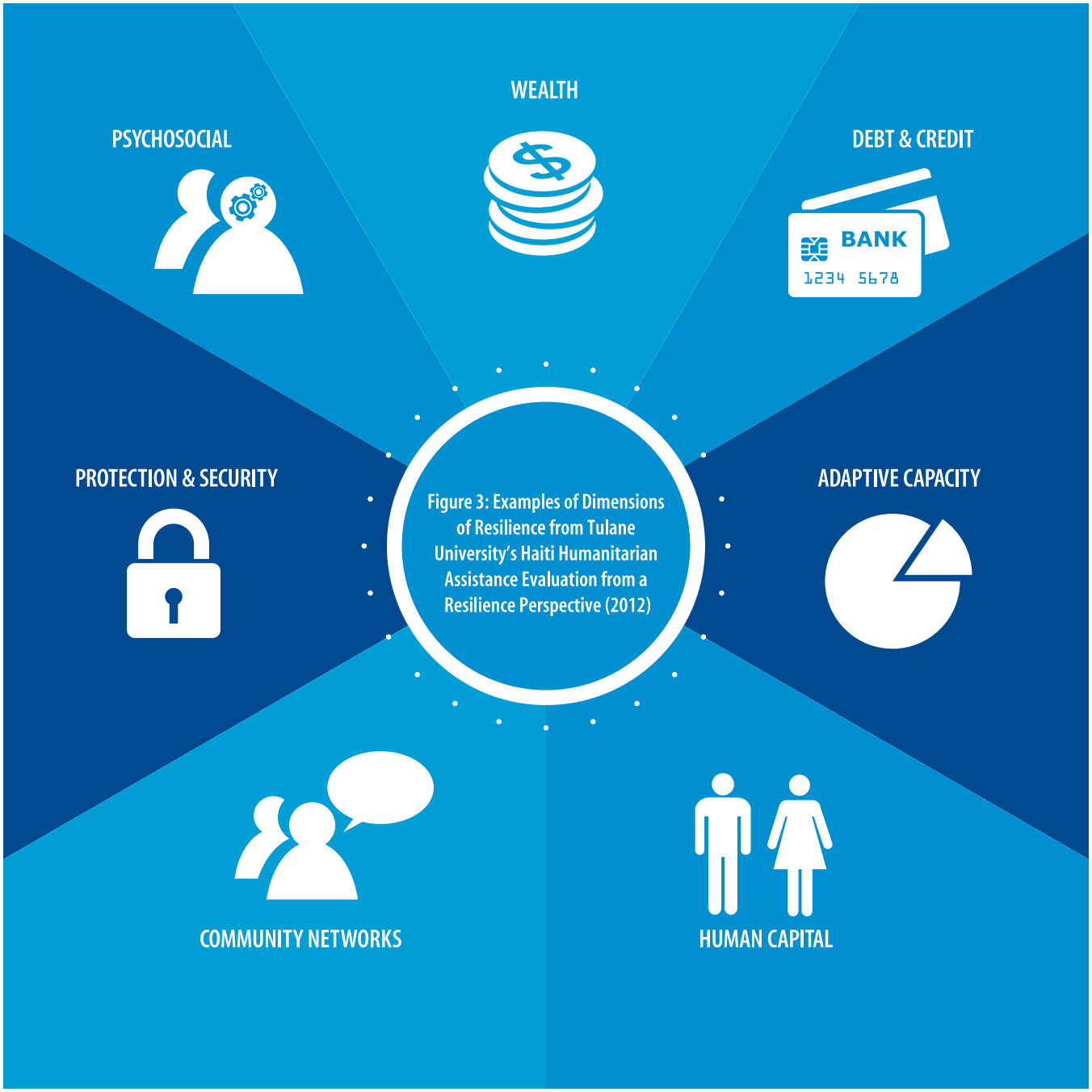


Figure 3: Examples of Dimensions of Resilience from Tulane University's Haiti Humanitarian Assistance Evaluation from a Resilience Perspective (2012)

Focus Questions

(1) What innovations have previously been successfully used to address vulnerabilities to prioritized stresses and shocks?

(2) What innovations would most effectively strengthen resilience in this community?

Methods

Detailed information on RAN's strategy for innovations will be contained in the program's Innovations Strategy. In order to facilitate effectiveness and evaluability, every innovation that is incubated in RAN's RILabs will have a theory of change that describes how it is expected to work: Which vulnerabilities/capacities it addresses, how it will be scaled out to its targeted participants, how it's intended and immediate benefits will be transformed in the long run and sustainable capacities that make people and systems resilient.

Step 4. Monitoring and Evaluation

Objective

This step assesses the results of interventions aimed at strengthening resilience and how improved resilience ultimately improves wellbeing.

Focus Questions

The primary questions for evaluation include:

(1) To what extent did interventions improve capacities and address vulnerability?

(2) Did the interventions increase capacities? Did they effectively address the targeted vulnerabilities?

Other evaluation criteria will be addressed:

Effectiveness: The extent to which the objectives of implementing specific innovations are achieved, or expected to be achieved, taking into consideration their relative importance.

Impact: Positive and negative, primary and secondary long-term effects produced by implementing innovations.

Efficiency: The extent to which inputs (human resources, funding, time, etc.) have been economically converted into outputs.

Relevance: The extent to which the objectives of an innovation are consistent with beneficiaries' requirements and needs, contextual realities, RAN priorities, and partners' and donors' policies.

Sustainability: The likelihood that innovations and benefits from the implemented innovations will continue after the RAN program ends and the likelihood of continued long-term benefits.

Methods

Based on RAN's Monitoring and Evaluation Plan, RAN will collect information on program outputs and outcomes to ensure that program targets are reached and alternative or more effective strategies for achieving targets are devised in time. In addition, the network will ensure data collection methods comply with assumptions required for statistical rigor (e.g., random samples for survey methods), and the impact of innovations and the massive online courses are assessed empirically.

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