

TECHNICAL BRIEF

Applying the Innovation Adoption Measurement Approach to Strengthen Resilience Programming

April 2021 | MARIE-CLAIRE TUZENEU, DR. THOMAS FATTORI, AMY OSTRANDER

About this Brief

This brief describes how projects in Mali and Haiti applied of the Innovation Adoption Measurement Approach, developed by Chemonics expert Dr. Tom Fattori, to support adaptive management on resilience-focused projects. This approach takes the findings from an innovation adoption assessment and identifies specific and actionable recommendations for targeting and improving the adoption of practices that strengthen resilience.

Setting the Scene: Measuring Resilience

Shocks and stresses, already a regular feature in the lives of the world's poor and marginalized, are increasing in frequency and severity, as changes in the climate contribute to droughts and floods and new health crises like Zika and COVID-19 threaten lives and livelihoods. For the development community, a lack of community and household resilience to weather and ability to bounce back from these events translates to a greater focus on and investment in humanitarian relief efforts. This constant focus on "putting out fires" leaves less time and fewer resources to invest in improving lives and fostering long-term growth and development.

Chemonics has developed and tested an approach that helps capture how far along households are in adopting specific best practices that build resilience capacities.

In this context, supporting pathways out of poverty is inextricably linked to building the resilience capacities needed to adapt to and recover from these shocks. Resilience is "the ability of people, households, communities, countries, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth."¹

Resilience capacities can be broken down into three categories: adaptive, absorptive, and transformative. Together these capacities allow people to anticipate and respond more effectively when faced with shocks and stresses. Woven throughout these capacities is social capital, which supports resilience by enabling individuals and communities to support each other in times of need. As people strengthen these capacities to adapt and respond, their long-term well-being should also then gradually improve. This improvement is measured through well-being outcomes, which can include, for example, increased food security and improved health.²

Through the USAID Resilience Evaluation, Analysis, and Learning (REAL) award, partners have developed a wealth of resources on resilience measurement — focusing on resilience capacities, shocks and stresses, and well-being outcomes, including base-, mid-, and endline risk and resilience assessments as well as shorter and more frequent Recurrent Monitoring Surveys.³ With these tools, a project can gauge how the adaptive, absorptive, and transformative capacities that lead to increased resilience have changed over time and/or how households are responding to a particular shock or stress. Most of these existing tools focus on the end result of increased resilience.

Dr. Fattori at Chemonics saw an opportunity to provide greater insight into the process of adoption and application of the new skills and practices being promoted to build resilience. Building upon existing behavior change scholarship he created the Innovation Adoption Measurement Approach (IAMA). The approach measures how individuals and households progress through the adoption of the best practices. When applied to resilience programming it offers concrete data on which new resilience-building practices are being adopted and at what rate. Information on progress toward adoption of practices enables projects to identify barriers to

resilience, and identify household clusters in need of more targeted support or that are high performing and may contain key lessons. By providing more detail into the process of adopting new skills, the study tools empower projects to make targeted adjustments in their approach. This can improve the way interventions for resilience are designed and managed.

Chemonics piloted IAMA as part of an effectiveness study for USAID's Mali Climate Change Adaptation Activity (MCCAA) and a resilience baseline in Haiti for the USAID Reforestation Project (URP), developing and testing adoption measurement for resilience capacities.⁴

Background: Building the Approach

IAMA builds on several existing theories and approaches. Before diving in to the approach, we cover three important building blocks.

First: Resilience Capacities

Absorptive capacity – the ability to minimize exposure to shocks and stresses through preventative measures and appropriate coping strategies to avoid permanent, negative impacts. Examples: bonding social capital, staple crop assets, garden crop assets, land, and cash savings

Adaptive capacity – the ability to make proactive and informed choices about alternative livelihood strategies based on an understanding of changing conditions. Examples: bridging social capital, education/training, diverse land usage, livestock assets, capital assets, diet diversity, diversity of livelihoods

Transformative capacity – improvement of the governance mechanisms, policies/regulations, infrastructure, community networks, and formal and informal social protection mechanisms that constitute the enabling environment for systemic change. Examples: linking social capital, social cohesion, communal natural resources, group membership diversity, collaborative action, access to markets, access to services

Second: Three Types of Social Capital

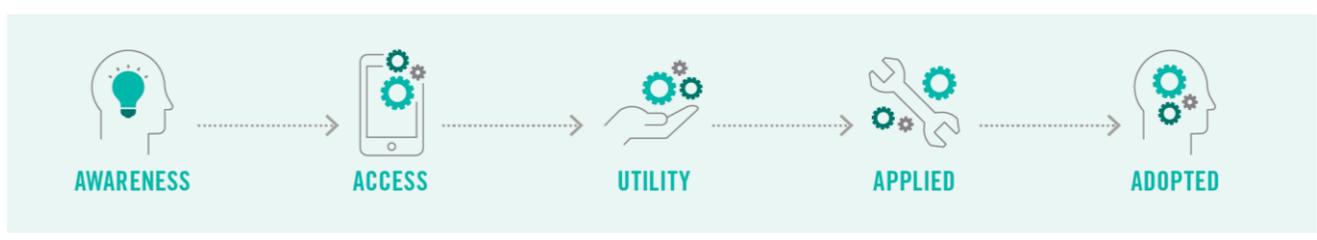
Bonding social capital – the bonds between community members, often evidenced by trust, reciprocity, and cooperation; can be drawn on in the disaster context, as members work closely to help each other cope and recover

Bridging social capital – connects members of one community or group to members of other communities and groups; these connections can facilitate

links to external resources and can be drawn on when local resources are insufficient or unavailable

Linking social capital – networks and connections between individuals and groups, across societal boundaries — specifically the vertical link between individuals and authority/power (government or NGOs); these linkages can provide resources and information that are otherwise unavailable

Third: Rogers' Innovation Diffusion Process¹



The key tenet of Roger's theory is that before an individual ultimately adopts an innovation, they must work through a five-step process:

1. Be **AWARE** that this innovation exists
2. Have **ACCESS** to that innovation and any required resources or assets
3. Decide that the innovation has **UTILITY**
4. Decide and take action to **APPLY** the innovation
5. Apply the innovation consistently or **ADOPT** that innovation

The Innovation Adoption Measurement Approach

Building on these existing theories, Dr. Fattori crafted the IAMA, which provides targeted data to measure the adoption of best practices. A survey measures how many respondents have completed each of the five steps along the adoption process. This information enables project teams to identify where participants are stuck — is awareness low, or are most people aware of the practice but they don't see the utility? Next, teams investigate what the barriers or stumbling blocks are and identify approaches that can improve progression through the steps to adoption.

The beauty of the tool is that can be applied to measure the adoption of any set of practices. The core of development programming is getting someone to do

something differently — to change a behavior. Whether it's starting something new, or stopping something harmful, the root is behavior change. IAMA provides a powerful tool to identify the specific steps where behavior change is being held up so that teams can target it, adjust, and achieve improved adoption and results.

Applying IAMA to Resilience in Mali and Haiti

In 2019, Chemonics piloted IAMA in Mali on MCCA and in Haiti on URP.

Survey

In both project surveys, questions included measures at each step in the pathway for all major project interventions, along with questions to capture the other key elements of a resilience assessment (namely, community assets, household livelihood assets, and social capital). As applicable questions were included to address any ongoing shocks or stresses, such as the fuel shortage and related civil unrest affecting project implementation in Haiti at the time of the resilience baseline.

EXHIBIT 1. OVERVIEW OF PROJECT SURVEYS		
	Survey for USAID Mali Climate Change Adaptation Activity	Survey for USAID's Reforestation Project in Haiti
Survey Type	Project effectiveness study	Resilience baseline and project effectiveness study
Timeframe	Baseline: June-July 2019 Endline: March-April 2020	November - December 2019
Geographic Scope	Purposely selected four livelihood zones, as defined by the Famine Early Warning System Network (FEWS NET), within the project zone of influence	Purposely selected five watershed zones within the project zone of influence
Household Sample Size	560 households - 2019 540 households - 2020 Based on an estimated population size of 593,000 people living in project zone of influence	540 households Based on estimated population size of 800,000 people living in project zone of influence
Groups	Semi-random selection of two villages per livelihood zone (or 8 villages total) with MCCA project services (treatment) and 8 villages total without MCCA project services (comparison) . 35 households were surveyed in each village with and without services, for an overall survey total of 560 households across 16 villages.	Random selection of 9 villages per watershed zone (or 45 villages total) with reforestation project services (treatment) and 45 villages total without (comparison) reforestation project services. 6 households were surveyed in each village with and without services, for an overall survey total of 540 households across 90 villages.
Survey Questionnaire Structure	1. Household Characteristics 2. Awareness 3. Access	1. Respondents and Household Profiles 2. Livelihoods 3. Shocks, Stresses, and Coping Strategies

	4. Utility 5. Use/Applied 6. Adopted (and Resilience Capacities)	4. Well-being Outcomes 5. Resilience Capacities 6. Reforestation Effectiveness (using Development Pathway) 7. Recommendations for Improving Resilience
Follow-on Studies	Project closed in 2020	Final endline resilience study (Spring 2022)

Analysis

When survey results were finalized, teams had a complete picture of the stages of adoption of their targeted practices. In addition, the researchers derived the resilience of households by indexing the suite of indicators that define absorptive, adaptive, and transformative capacities. This is in keeping with the methodology laid out in the [USAID REAL Resilience Measurement Practical Guidance Note Series](#).

Mali

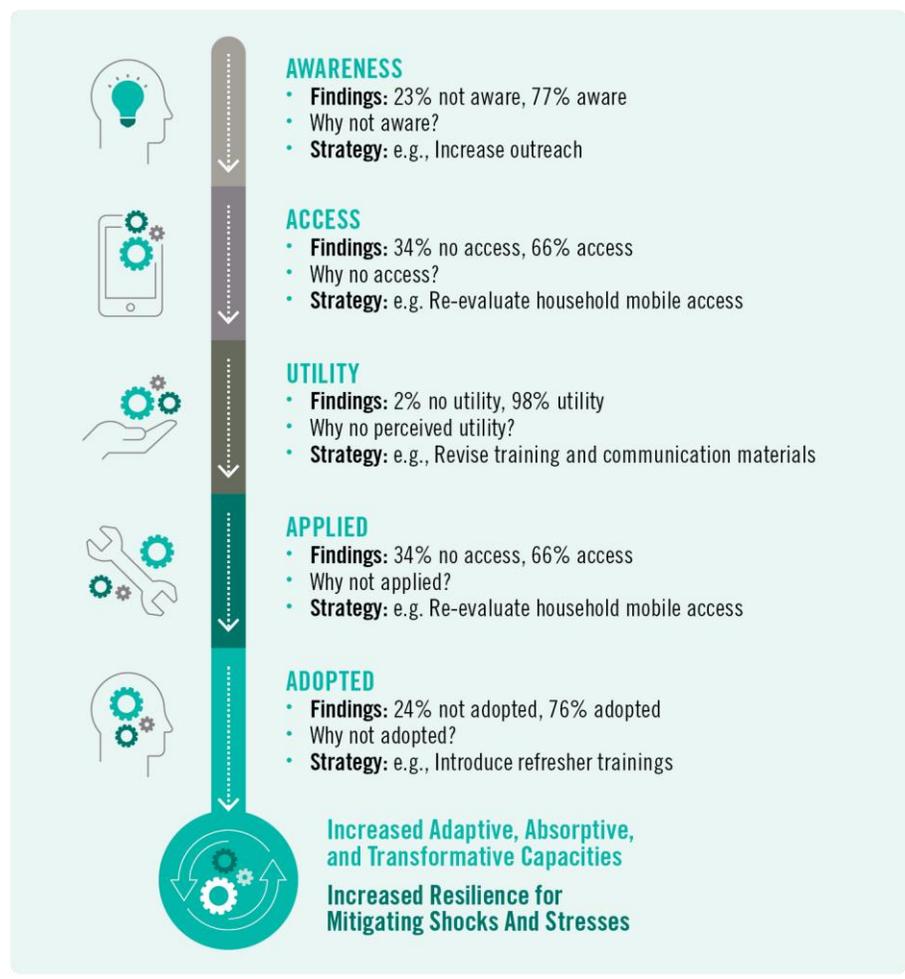
In Mali, the survey measured awareness, access, utility, application, and adoption for several climate-adaptation practices that MCCAAC was promoting including the provision of climate information, soil fertility and conservation, and animal fattening, among others. Zooming in on one practice to illustrate the analysis of the survey data, Exhibit 2 below shows data on climate information system interventions. Awareness is quite high — 77% of project-supported households indicated that they are aware of the climate information shared by MCCAAC.

The data for each step was next interrogated with a straightforward question: Why? For example, why were 23% of respondents not aware? What prevented their awareness, and what could MCCAAC do to increase awareness? Or, focusing on the third step: Why did 25% of respondents find no utility in the data provided?

Some of this analysis included reviewing additional data gathered through the survey — such as community assets and household livelihood assets. In some areas households had lower access to working smartphones with the climate information application released under the MCCAAC project (physical capital). Some lived in an area with a weaker radio connection and could not obtain climate information through the eight radio stations supported by MCCAAC (community asset).

Broad-reaching awareness-raising activities are crucial because they increase the pool of households who can work their way through the pathway to ultimately adopt a best practice.

Exhibit 2. Daily Climate Information at Each Step in the Innovation Adoption Measurement Approach



Understanding the utility of a technique is the largest hurdle that a household must overcome before they decide to apply and/or adopt a best practice.

Analysis of the utility step led to a critical finding for the Mali team. The key to an increased adoption rate most often was whether participants understood and valued the benefit provided by the practice, or rather the perceived utility. If households are aware of a technique and have access to it, they then decide if they trust in and find the technique useful before choosing to adopt it.⁵ Trust in the practice and its utility is hard to build, and the importance cannot be understated. Developing that trust represents the largest hurdle that a household must overcome before they decide to apply and/or adopt a best practice. If a practice will result in greater net gain (oftentimes greater monetary gain) for their household then it is deemed useful. This determination is based on the perceived relevance, reliability, and timeliness of and their trust in the proposed practice.

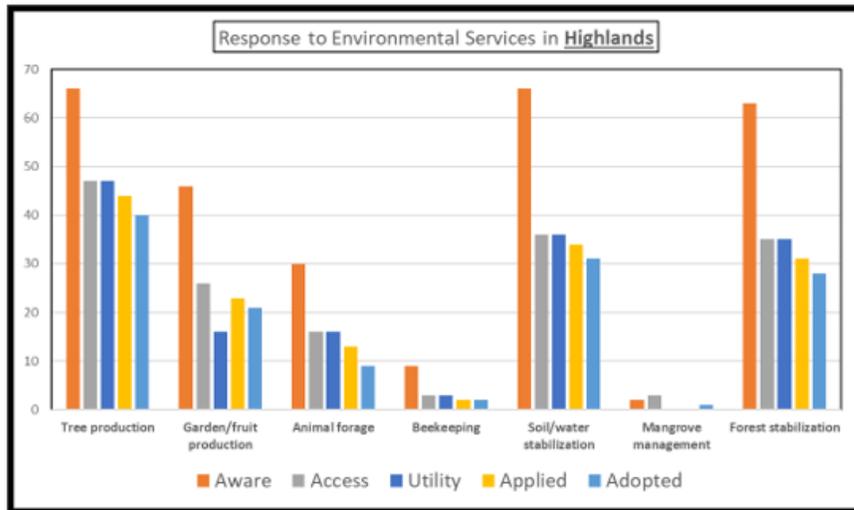
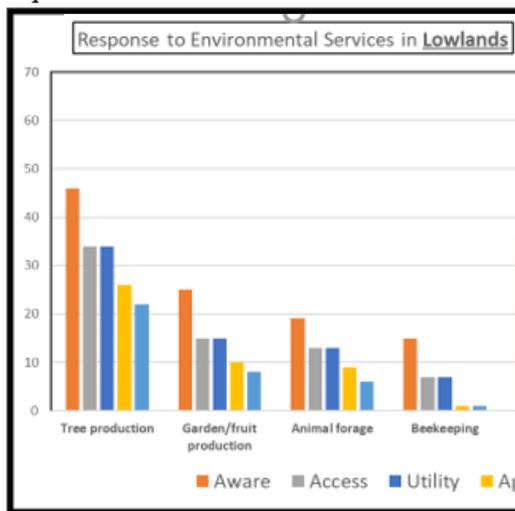
Households with MCCA support found the use of daily climate information to have significantly greater utility than reported by households without MCCA support, they also reported significantly higher levels of trust in climate information.⁶ The study found that MCCA community relays (who served as advocates and trainers for the use of climate information) played a key role in the higher trust and perceived utility of climate information in MCCA-supported households. Relays served as early adopters, giving other community members the confidence to adopt adaptive technologies proposed by the project and effectively accelerating the adoption curve for those beneficiaries. In addition, they helped build significantly more trust in climate information for households with MCCA support.

Haiti

As the team interrogated the adoption data in Haiti a pattern emerged among the seven practices being promoted by the project. Adoption rates for these practices (and the four steps preceding adoption) were all much higher in the highland region than the lowland region.

The team expanded its analysis to investigate not only barriers in transitioning from one step to another, but what could be behind these regional differences in adoption. A key difference came through in the rest of the survey data: social capital. Highland communities reported much higher rates of social capital — participating in local groups, helping their neighbors, supporting residents outside their village. (See the two graphs below.)

With this finding, the URP team investigated communities with higher social capital to better identify what built and supported it. The team then layered these approaches into its existing intervention package. Using IAMA, the team will be able to confirm whether these adaptations are having an impact on adoption rates and ultimately resilience in these communities.



Adaptation

Teams in both Mali and Haiti focused their analysis on finding actionable data that could inform targeted adjustments in programming — with the ultimate goal of improving the adoption of practices, and household resilience. The crucial final step in the IAMA process was to translate the findings into lessons and recommendations that could be debated, adapted, and applied by the implementation teams.

In Mali, following the data outlined above, a key adaptation made following the DPA survey and analysis was an increased focus on fostering trust in the utility of interventions. The community relays were seen as pivotal actors in this process and provided additional support.

Given the differences in adoption rates and social capital between the lowland and highland intervention regions in Haiti, the team increased their focus on building social capital. This included shifts such as working with a broader set of local groups and facilitating exchanges between communities. Haiti URP will follow up with an additional survey in 2022 to measure the results of these targeted shifts.

The Innovation Adoption Measurement Approach provides concrete data for adaptive management on resilience-focused projects. The approach is highly adaptable to different country contexts and project objectives.

Looking Forward

The data in Mali, collected so close to project closeout, served as more of an endline assessment. There was not a substantial amount of programming time remaining to introduce significant changes. However, the survey did provide key insights, demonstrating the potential utility of the data and informing the application of the approach in other projects like Haiti URP. The use of IAMA in Haiti, on the other hand, will show the impact of investing early to integrate behavior change measurement into regular project assessments. This data can feed into adaptive management. When dissected at a granular level, as IAMA enables, the teams can make more targeted, impactful changes to interventions.

IAMA is a practical tool for measuring the adoption of new behaviors. The approach can serve as a complement to the USAID Resilience Framework and the suite of available USAID REAL resources on measuring resilience. By examining progress toward adoption implementation teams can gain important insight in to the process of how resilience building practices are being taken up. Further, interrogating the data by asking “Why” there is or is not progress through each step along the way, projects can draw on findings from a resilience assessment and identify specific and actionable recommendations for adjusting approaches and interventions.

Alongside recurrent monitoring surveys, IAMA offers projects an option for adaptive management that can be applied to bring more concrete data to resilience-focused projects. And as its application in both Mali and Haiti helped demonstrate, just as with resilience assessments overall, it is an approach that is highly adaptable to different country contexts and project objectives, and can be tailored to a specific project and local context to be effective.

CONTACT

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¹ USAID Resilience Fact Sheet (2015). Retrieved from <https://scms.usaid.gov/sites/default/files/documents/1867/06.30.2015 - Resilience Fact Sheet.pdf>.

² USAID Resilience, Evaluation, Analysis and Learning Award (2018). Resilience Measurement Practical Guidance Note Series: An Overview (2018). Retrieved from <https://www.fsnnetwork.org/resilience-measurement-practical-guidance-note-series-overview>

³ For further details, see the USAID REAL Resilience Measurement Practical Guidance Note Series: <https://www.fsnnetwork.org/resilience-measurement-practical-guidance-note-series-overview>.

⁴ Effectiveness is defined herein as meeting the stated activity objective. In the case of MCCA, this was increasing the adaptive capacity of targeted communities, households, people, and systems. We defined adaptive capacity as the ability to make proactive and informed choices about alternative livelihood strategies based on an understanding of changing conditions.

⁵ The term “utility” is used in this analysis to include several factors, where a series of questions taken together characterize the perception of respondents on the “utility or value” to the household of using a technique. For example, questions were posed on trust, reliability, relevance, timeliness, and understanding of the technique accessed by households.

⁶ Households with MCCA support reported they highly trust the quality of daily climate information (a significant 33%) or have above average trust in daily climate information (a significant 20%). Households without MCCA support reported a significant 15% little trust and 12% average level of trust.