



## HOW TO DO NOTE

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Designing for and monitoring resilience for vulnerable rural households - the Resilience Design and Monitoring Tool (RDMT)

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How To Do Notes offer practical suggestions and guidelines to country and project delivery teams, project management units and other implementing partners and practitioners to help them design and implement programmes and projects. The notes include best practices and case studies that can be used as models in their particular thematic areas.

How To Do Notes also provide tools for project design and implementation based on best practices gathered at the field level. They guide teams on how to implement specific recommendations in IFAD's operational policies, standard project requirements and financing tools.

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### **COVER PHOTO:**

Laura Cros - Tegallalang Rice Terrace, Indonesia. September 5, 2018.

## Acronyms

**ASAP:** Adaptation for Smallholder Agriculture Programme

**ASAP+:** Enhanced Adaptation for Smallholder Agriculture Programme

**COI:** Core Outcome Indicators

**FCDO:** Foreign, Commonwealth & Development Office (United Kingdom)

**GIS:** Geographic information systems

**HTDN:** How to Do Note

**KPI4:** Key performance indicators

**M&E:** Monitoring & evaluation

**PDT:** Project development teams

**POLG:** Programme of Loans and Grants

**PMU:** Project management units

**RDMT:** Resilience Design and Monitoring Tool

**SDG:** Sustainable Development Goal

**RDMT:** Resilience Design and Monitoring Tool

**SECAP:** Social, Environmental and Climate Assessment Procedures

**SKD:** Strategy and Knowledge Department (IFAD)

**ToC:** Theory of Change

**2RP:** Rural Resilience Programme

**3As:** Anticipatory, Adaptive and Absorptive Capacities

<b>Introduction</b>	5
Relevance of the RDMT throughout the project cycle	6
Key concepts	7
<b>Lessons learned</b>	9
<b>Unpacking resilience for rural development projects</b>	11
Household resilience framework for rural development projects	11
Applying the framework in designing interventions for resilience	13
<b>How-to-do Guidance - The Resilience Design and Monitoring Tool (RDMT)</b>	15
The four resilience risks clusters	17
The seven steps in designing for and monitoring resilience	19
STEP 1: Identify key risks and their impacts	20
STEP 2: Identify key vulnerabilities	21
STEP 3: Identify project interventions	22
STEP 4: Identify the expected results	23
STEP 5: Formulation of adoption monitoring questions and scoring	26
STEP 6: Formulating results monitoring questions and scores	28
STEP 7: Data analysis and reporting	30
<b>Conclusions</b>	36
<b>REFERENCES</b>	37
Annex 1 Example of resilience matrix and scorecard from the Laos PICSA project	38
Annex 2 Example of Resilience matrix and scorecard from the Egypt SAIL project	42

## INTRODUCTION

Building and enhancing the resilience capacities of the rural poor is essential for their sustainable transition out of poverty and for meeting SDG 1 (no poverty) and SDG 2 (zero hunger). Poor rural households are highly exposed to shocks and stressors, with their livelihoods dependent on an often deteriorated natural resource base, volatile market and economic conditions, socio-political instability and rapidly changing and erratic climate conditions. In IFAD's support to governments, rural communities and small-scale producers in the transformation of their production systems, resilience capacities are key to achieving sustainable food systems and pathways out of poverty. Resilience is at the heart of meeting IFAD's overarching development goal, namely: enabling rural people to overcome poverty and achieve food security through remunerative, sustainable and resilient livelihoods.

Designing for and systematically monitoring progress in building the resilience capacities of rural people in development programmes is critical for continued systematic learning, adaptive management and greater effectiveness of resilience-building interventions. This requires project designers, implementers and service providers supporting outcome surveys to have tools that can unpack and operationalize the complex concept of resilience in a particular rural development context.

Developed through a trial-and-error learning process with support from the IFAD Adaptation for Smallholder Agriculture Programme (ASAP) and initially inspired by the former DFID (FCDO) KPI4, <sup>1</sup> the Resilience Design and Monitoring Tool (RDMT) presented in this how-to-do-note (HTDN) has been pilot-tested in the period 2017-2022 in a number of project designs and baseline and mid-term surveys.<sup>2</sup> The RDMT aims at providing a framework for building the resilience of rural households and a step-by-step guide to designing for and monitoring the performance of resilience-building interventions during project implementation. The methodology offers a concrete, practical and context-specific approach for project delivery teams (PDT), project management units (PMUs), rural communities and other development partners to identify resilience-building interventions and track their adoption and effectiveness in enhancing the resilience capacities of rural households.

The RDMT aims to support learning about resilience at all levels and bridge gaps in generating and organizing household resilience data. Combined with other assessment tools, such as IFAD Core Outcome Indicators (COI) and resilience impact assessment (Ability to Recover Index), it generates useful data on progress in resilience building for assessment and reporting on the IFAD portfolio<sup>3</sup>.

<sup>1</sup> Key Performance Indicators (KPIs) 4 (number of people with improved resilience as a result of project support). This methodology was developed by the UK Foreign, Commonwealth & Development Office (FCDO) (formerly DFID)-funded Building Resilience and Adaptation to Climate Extremes and Disasters (BRACED) programme, one of the world's largest resilience programmes.

<sup>2</sup> The final methodology proposed in this HTDN has been tested with a number of PMUs in joint exercises, developing resilience metrics and scorecards for their specific projects. The feedback from these PMUs and field staff has contributed significantly to further adjustments and improvements in this first version of the HTDN. The HTDN is a living document, and a second edition incorporating further lessons learned from the use of the RDMT is expected in 2024.

<sup>3</sup> IFAD's approach towards resilience, forthcoming.

The RDMT presented in this HTDN answers three main questions:

1. How can the concept of resilience be applied in the design of rural investment projects?
2. How can progress in building the resilience capacities of vulnerable rural households be monitored?
3. How and to what extent are project interventions effective in addressing the risks and vulnerabilities identified?

These questions are relevant for all projects addressing resilience in rural areas and sectors. The RDMT details how resilience-building interventions can be identified and how questions for a resilience index survey can be formulated, scored and tailored to a specific project context to generate systematic learning and evidence on the resilience outcomes achieved. The RDMT is relevant for all rural development project practitioners. Its use is encouraged in all projects in IFAD's Programme of Loans and Grants (PoLG) that address climate, economic, governance and sociocultural shocks and stressors. It is particularly recommended for projects that include climate co-financing from development partners (e.g. the Green Climate Fund (GCF), Global Environmental Facility (GEF), Adaptation Fund (AF)) and for projects cofinanced by IFAD's flagship Enhanced Adaptation for Smallholder Agriculture Programme (ASAP+)<sup>4</sup>.

## RELEVANCE OF THE RDMT THROUGHOUT THE PROJECT CYCLE

The RDMT methodology is aimed at supporting project practitioners (e.g. PDTs, PMUs and other project partners) **throughout the project cycle**. This includes at:

**Project design:** i) structuring assessment of the risks and vulnerabilities of the different target groups and households in a given project context; ii) integrating resilience in the project's theory of change (ToC) and core design by prioritizing and detailing interventions that address vulnerabilities and gaps in resilience capacities; iii) understanding which project interventions are most likely to increase household resilience; and iv) developing a draft resilience matrix, scorecard and index for the project that will enable monitoring of whether the interventions designed are adopted and delivering the desired resilience capacities to the different target groups and households during project implementation.

**Project implementation:** i) Revisiting the resilience matrix, fine-tuning the scorecard and index and developing the questionnaire for household surveys; ii) periodic data collection and analysis based on the resilience scorecard throughout project implementation, and discussion of findings with participating project target groups to inform decisions on project strategies and interventions; and iii) taking action to make adjustments if households are not adopting some resilience-building interventions or are not achieving the intended resilience outcomes according to the resilience index data analysis.

**Project completion, final evaluation and impact assessment:** i) Applying the endline resilience survey as part of the project completion survey and analysing changes in the household resilience index with respect to the baseline and between treatment and control groups, including breakdowns by target group, geographical intervention area, risk type and vulnerability and resilience-building interventions; and ii) including findings in the project completion report and eventual final evaluation and impact assessment.

<sup>4</sup> ASAP+ financing is blended into IFAD's regular investment processes and operations. The first phase of ASAP (ASAP1) was launched in 2012 and supports 42 projects in 41 countries, with a total budget of US\$316 million from multiple donors. The second phase (ASAP2), approved in 2017, is a technical assistance programme for refining, among other things, resilience measurement methodologies – including this HTDN. Resource mobilization for the ASAP+, was launched in 2021 under the Rural Resilience Programme (2RP) umbrella as part of IFAD's 12th replenishment cycle (IFAD12, 2022-24) to address climate-change drivers of food insecurity.

## KEY CONCEPTS

**Resilience: “Resilience is the ability of individuals, households, communities, cities, institutions, systems and societies to prevent, resist, absorb, adapt, respond and recover positively, efficiently and effectively when faced with a wide range of risks, while maintaining an acceptable level of functioning without compromising long-term prospects for sustainable development, peace and security, human rights and well-being for all” (UN 2020).**

To simplify for operational purposes, resilience can be disaggregated into three main interrelated and sometimes overlapping capacities that enable rural households **to anticipate (prevent impacts), absorb (resist, withstand and recover from), and adapt (build back better) to the stresses and shocks to which they are likely to be exposed**, as seen in the following examples:

**Anticipatory capacity** is a household’s ability to prevent the impact of shocks and stressors through preparedness and planning. Bahadur et al. (2015) explain that anticipatory capacity shows that people recognize or predict shocks and stresses and proactively take steps to prevent them and/or protect themselves and their livelihoods. One example would be replanting mangroves and building sea walls to protect a coastal zone from storms and rising sea levels or early harvesting and moving products to safe storage in reaction to early warning of a cyclone.

**Absorptive capacity** is a household’s ability to absorb and cope with the impact of shocks and stressors, mainly with functional persistence (ability to bear and endure). Absorptive capacity can be seen in the ability of communities to access and deploy tangible assets such as savings and intangible assets such as social networks and community support to help them survive and recover relatively quickly from intensive shocks and maintain levels of well-being. Membership in cooperatives with cold storage facilities can help producers cope with volatile market prices. Women’s economic and social empowerment can help women resist exclusionary gender norms. Disaster relief, microcredit, weather-indexed insurance and social protection can all help households meet their consumption needs in the immediate aftermath of a disaster (Bahadur et al., 2015).

**Adaptive Capacity** is a household’s ability to adapt to multiple long-term and future shocks and stressors and to learn and adjust after a disaster or even transform their livelihoods to reduce exposure and sensitivity and prevent repeated impacts. It is the ability to make deliberate, planned decisions to achieve the desired state, even when conditions have changed or are about to change (Bahadur et al., 2015). One example is households and communities diversifying livelihoods or crops to spread risks or deciding to decrease their reliance on sources of livelihood affected by certain disasters in favour of others.

The literature sometimes mentions a fourth capacity, *transformative capacity*, which is a household’s or community’s ability to create essentially new systems to prevent a shock or stressor from having a long-term impact. For simplicity’s sake, transformative capacity in the RMDT is covered under adaptive capacity, applying a holistic approach to build, reshape and enhance households’ social and livelihood systems to achieve significantly lower vulnerability (minimal exposure and sensitivity).

**Risks:** In this RDMT, risks are understood as events that can take the form of shocks - major spikes in pressure (e.g. a hurricane or sudden increase in input or fall in output market prices) beyond the normal range of variability in which the system operates - and stressors - continuous or slowly increasing pressures in the system (e.g. rising temperatures, soil degradation or sociocultural exclusion of women in income-generating activities) (Gallopín, 2006). Risks can come from outside as well as inside the system. Internal and external risks can combine (e.g. the effects of prolonged drought in a household affected by the loss of a household member). The RDMT considers the types of risks that more often affect poor rural households and are addressed by project interventions falling within the remit of IFAD's mandate (see STEP 1, Figure 2).

**Vulnerability:** Vulnerability is the degree to which a system (the rural household) is susceptible to being impacted by risks and unable to cope with them. To meet simplification imperatives, the RDMT understands vulnerability as a combination of exposure<sup>5</sup> and sensitivity<sup>6</sup>. The RDMT operationalizes vulnerabilities in terms of lacking or limited capacities, the use of certain practices and technologies, membership of the organizational structure or access to infrastructure that affects a household's capacity to avoid or mitigate the impact and/or recover quickly and fully from a shock or withstand a stressor.



<sup>5</sup> Exposure: The exposure of target groups in project areas to the impacts of shocks and stressors depends on factors such as the placement of housing, key infrastructure and livelihood activities and other economic, social, or cultural assets in areas likely to be impacted; dependency on agricultural livelihoods, species or ecosystems likely to be impacted; dependency on degraded ecosystem functions, services and resources with low buffer capacity; or lack of assets, capacities and decision-making power to take preventive/adaptive action.

<sup>6</sup> Sensitivity: The degree to which a household is susceptible to – and unable to cope with – the adverse effects of shocks and stressors. Individuals and communities are differentially vulnerable to shocks and stressors due to factors such as membership in social networks and economic organizations, wealth, education, gender, age, nutrition, disability and health, which may define the fall-back and coping strategies they may have at their disposal to recover quickly and fully and avoid long-term harm.



## LESSONS LEARNED

This HTDN capitalizes on and integrates the following lessons consolidated through pilot implementations with PDTs and PMUs, literature review and cross-divisional collaboration in IFAD.

*Resilience is context specific and too complicated for project practitioners to monitor in absolute terms.* Resilience is influenced by multiple complex interdependent factors that make it hard to introduce and operationalize pragmatic tools for its monitoring. Applying the concept of resilience in absolute terms (i.e. quantifying the overall resilience of a household through the use of universal capacities and questionnaires) poses significant methodological challenges and the risk of overlooking important local factors. Such an approach often requires highly specialized expertise and is not user-friendly for PMUs, producer groups or communities. Unpacking resilience is easier when it is concentrated on a specific project context and target groups and is project-tailored. Context-specific resilience indices seem to be better suited to learning than a set of universal indicators (Climate Change Compass, 2019). In addition to a context-specific focus, further simplicity can be achieved by focusing only on monitoring the resilience capacities the project seeks to address or is likely to influence.<sup>7</sup> These two elements for simplicity have been the basis for developing the RDMT as a user friendly tool for project practitioners that is easy to implement and focuses on generating evidence on the performance of project interventions and the validity of the project's specific theory of change (ToC) for enhancing resilience.

*Households are the central systems for resilience capacity.* The initial question when operationalizing resilience is resilience of what (e.g. landscape, community, household, individual)? Since IFAD's work is people-centred, focused on social inclusion in the transformation of rural economies and livelihoods, defining the rural household as the central unit and system is the logical choice. Members of a household often mutually support one another to cope with shocks and stressors. Households are also the monitored unit in other IFAD Core Indicators. Putting the household at the centre to enhance resilience capacity is therefore the first building block in the resilience framework used in the RDMT.

*Need to unpack resilience in both design and monitoring.* In order to facilitate the development of a coherent, project-specific resilience index, resilience must be analysed as an integral part of the design process. Rural development practitioners require concrete steps to guide design for resilience as much as they need guidance on the preparation of an index for monitoring resilience outcomes. The RDMT therefore presents an analytical household resilience matrix and guiding steps to address both of these needs.

*Resilience to more than climate shocks and stressors.* The resilience lens is useful for understanding rural development constraints other than shocks and stressors from climate change impacts. Rural households and their pathways out of poverty are vulnerable to many types of shocks and stressors. A broader risk and vulnerability analysis can contribute significantly to putting resilience at the centre of a project's ToC and design. However, to balance the need for simplicity with a comprehensive analysis, the framework should support an organized analysis of vulnerabilities, resilience-building interventions and expected results. The RDMT breaks down the operationalization of resilience into four clusters representing general types of risk related to: climate and ecosystems; governance and tenure; markets and economic conditions; and sociocultural exclusion drivers. The project can choose to focus on one or several of these clusters depending on the context and capacity to manage a more-or-less complex resilience matrix.

*The resilience index and scorecard approach is simple but nevertheless demanding.* Even if the draft resilience matrix, index, survey questions, scorecard and methodology are included in the service provider's terms of reference for household baseline, mid-term and completion surveys, it cannot be assumed that service providers will be able to fine-tune and apply the scorecard on their own. Both the PMU and service providers need training in the scorecard tool to understand the project-specific resilience matrix behind the scorecard and index, along with support in fine-tuning the scorecard and the questions to be included in the baseline survey questionnaire. Pilot testing of questionnaires with targeted households is another important step for their improvement before they are fully rolled out. Once the data are collected, support is also needed for their analysis to ensure that outcomes can contribute to a better understanding of vulnerabilities and the targeting of resilience-enhancing interventions.

<sup>7</sup> Climate Change Compass (2019). Number of people whose resilience has been improved as a result of ICF. KPI 4 Methodology Note. September 2019.

*Need to disaggregate performance monitoring in adoption and results.* Piloting of resilience scorecards has shown that the quality of the performance monitoring of concrete resilience-building interventions could be improved. The RDMT methodology therefore structures the survey questions and scoring system to determine first, whether the resilience-building interventions have been adopted by the household, and then, if they have produced the expected results in terms of enhanced resilience capacity to anticipate, absorb and adapt to the specific risks identified. Accordingly, the RDMT produces two different indexes: the adoption and the resilience index, which are studied separately and through correlation analysis to generate important knowledge to support project implementation.

*A unified scoring system is needed for aggregate cross-portfolio monitoring.* Looking beyond the needs of each individual project to better gauge the effectiveness of resilience-building interventions, development of the RDMT has also considered how the achievements demonstrated in project specific resilience indices across a project portfolio could be aggregated. This is achieved by applying a unified three-point scoring system to all adoption and outcomes questions that allows for the use of a normalized index.

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## UNPACKING RESILIENCE FOR RURAL DEVELOPMENT PROJECTS

### Household resilience framework for rural development projects

Four key questions and answers are used in developing the RDMT analytical and conceptual framework for the resilience of rural households in projects that support inclusive rural economies and create the conditions for rural household pathways out of poverty:

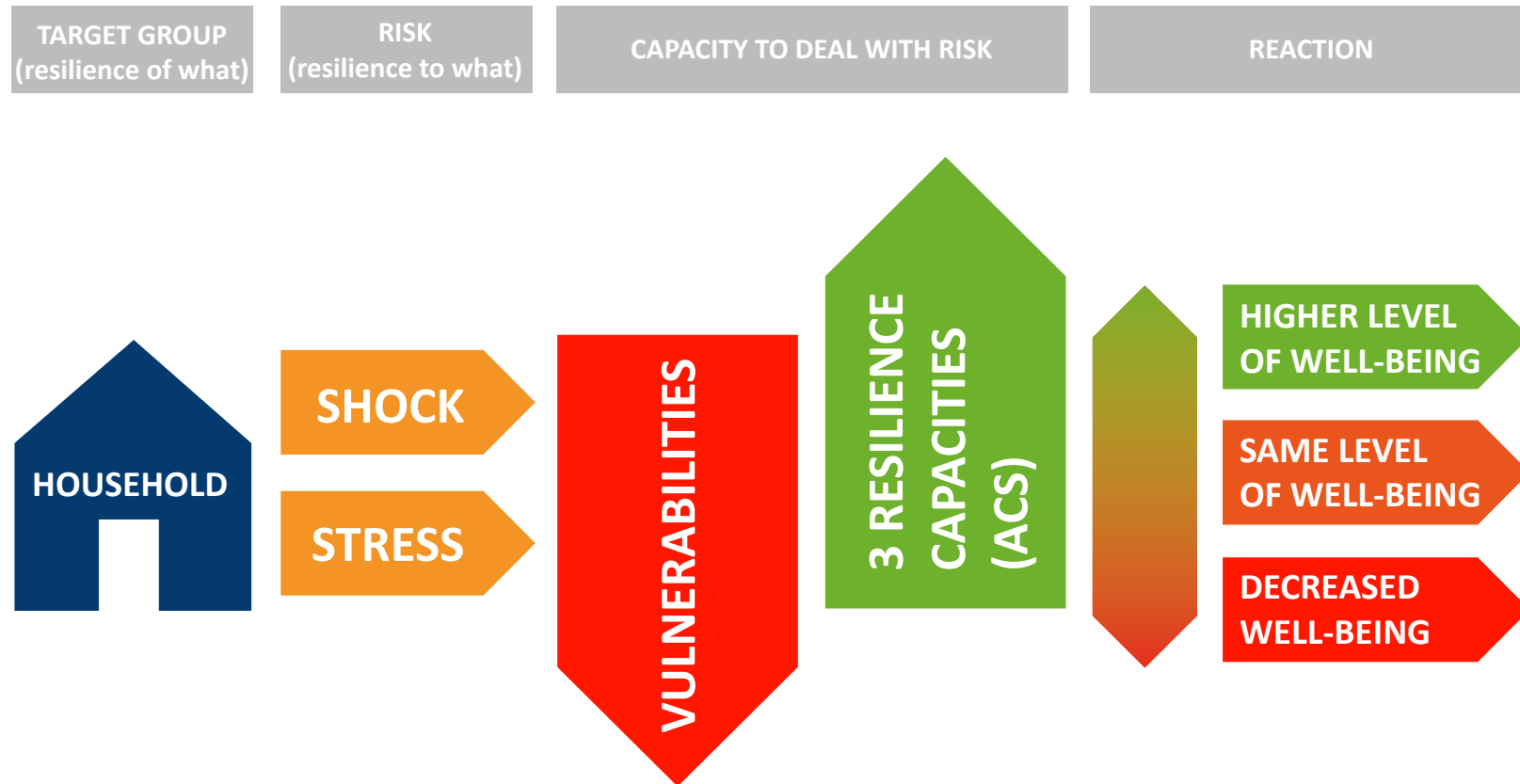
- **Resilience of what/whom?** - Of households as the central unit for resilience capacity, and embedded in their surrounding landscape. If the agroecosystems the household depends on have low resilience, this would be captured in the household's resilience.
- **Resilience for what?** - Enhancing and preserving households' food security and nutrition, income and livelihood, in line with IFAD's rural poverty mandate, while recovering from a shock or resisting a stressor in a manner that reduces chronic vulnerability and facilitates inclusive growth.
- **Resilience to what?** - The shocks and stressors that impact the livelihoods of poor rural households and their sustainable improvements in economic inclusion, productive assets, income and food security. In the IFAD framework, these include environmental and climate (floods, droughts, etc.), socio-economic (market fluctuations, job loss, lack of governance and land tenure, intercommunity violence, conflict, migration, social exclusion etc.) shocks and stressors. In the RDMT, these shocks and stressors have been grouped into four risk clusters: 1) climate and degraded ecosystems; 2) lack of governance and insecure access to and tenure of land and other natural resources; 3) insecure access to markets, market fluctuations and other economic shocks; and 4) social and cultural exclusion drivers that limit the participation of women, youth, Indigenous Peoples and other vulnerable groups in economic and livelihood development activities.
- **Resilience through what?** - Enhancing the capacities that are embedded or lacking in the context and household to enable households to manage shocks and stressors and reduce vulnerabilities. These capacities include anticipatory, absorptive and adaptive capacities ([see Key concept section](#)).

**FIGURE 1** illustrates the framework for understanding the resilience of rural households. The household is the system at the centre of resilience analysis that is exposed to different shocks and stressors. Its capacity to cope depends on the vulnerability of its different livelihood activities and assets (exposure and sensitivity) and

its ability to anticipate, absorb and adapt (the 3As). The state of household vulnerabilities and the three resilience capacities determine the final impact on households' level of well-being (severity of impact, recovery time and level). In the worst case, well-being is reduced, and in the best case, they manage to stabilize or increase their well-being despite the shocks and stressors in their environment, while learning how to better manage similar risks in the future.



**FIGURE 1 : RURAL HOUSEHOLD RESILIENCE FRAMEWORK**



## APPLYING THE FRAMEWORK IN DESIGNING INTERVENTIONS FOR RESILIENCE

Once the concrete shocks and stressors that impact different project target groups have been identified, resilience-building interventions that reduce vulnerabilities and enhance the three types of resilience capacities are identified. When identifying the interventions, it becomes clear how interlinked the three capacities are. Trying to keep them separated is therefore not adding value in a real-life situation where one intervention will often enhance two or all three capacities. Nevertheless, they are helpful to bear in mind when identifying interventions by asking the following questions (**SEE FIGURE 2**):

### 1 - What interventions can support the households in the project target groups reduce the severity of the impact of the shocks they are exposed to?

Generic examples of intervention areas to reduce the severity of the impact of shocks through anticipatory/preventive capacities:

- Natural resource management at the landscape and field level to ensure buffer capacity/resilience in agroecosystem services
- Diversification (crops, income sources, livelihoods) to spread risks (avoid “putting all the household’s eggs in one basket”)
- Rainwater harvesting, storage and supplementary drip irrigation
- Construction of roads, transport and storage facilities to improve access to markets and store harvests while prices are low
- Early warning systems and capacity building that enable households to take swift preventive action, protect/move assets and livestock out of risk or adjust crop types or the cropping calendar
- Ensure quality and the placement of non-mobile assets in no-risk areas
- Support membership in and the capacities of social networks and producers’ and marketing organizations, ensuring joint learning for preventive and adaptive activities

### 2 - What interventions can support households in the project target groups recover quickly and to the same or higher level of well-being if/when the shock occurs?

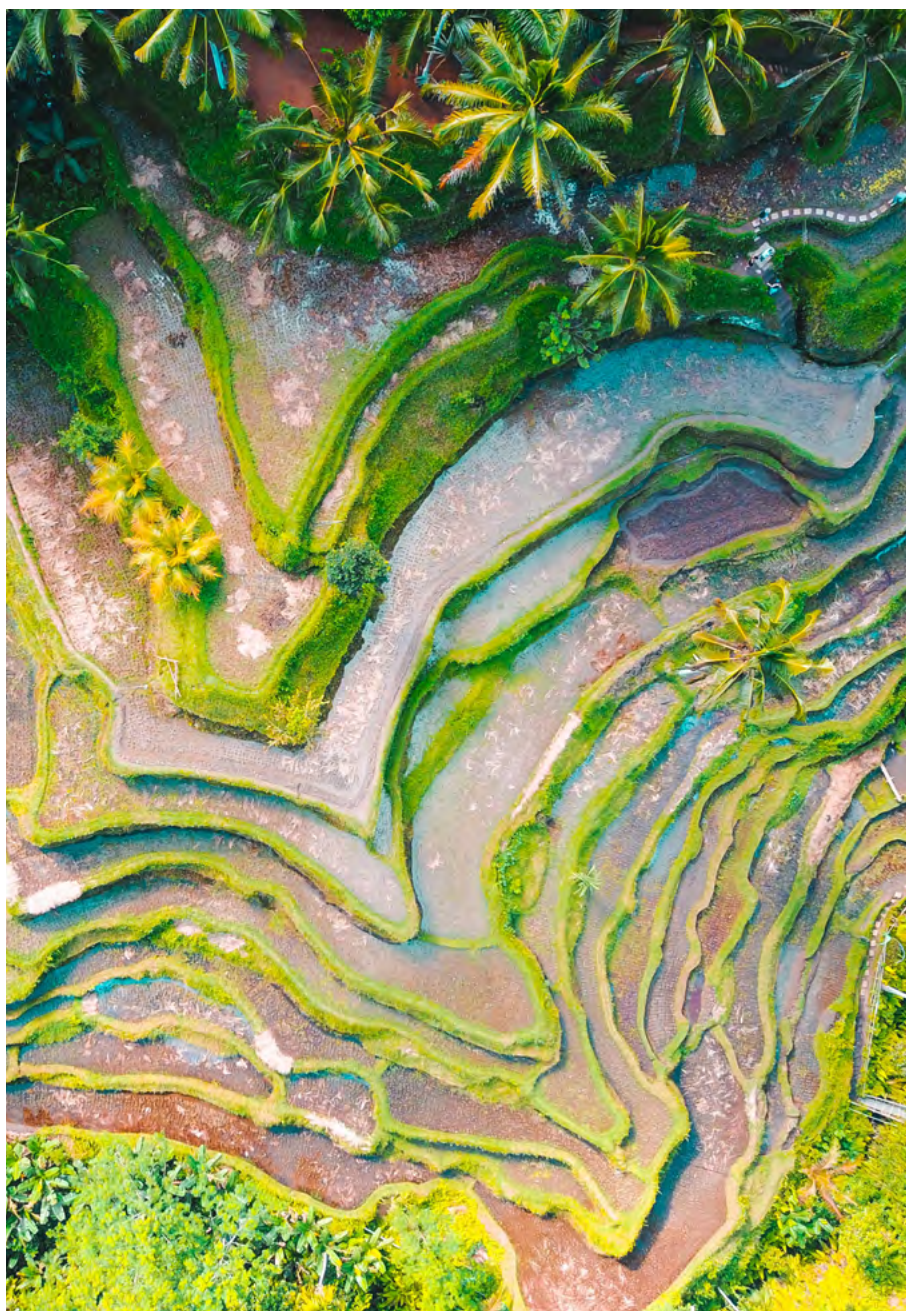
Generic examples of intervention areas to build households’ absorptive capacities, supporting them withstand and recover quickly and fully:

- Support savings through savings and credit groups and simple financial literacy
- Access to (emergency) grants and loans to replace productive assets and cover the cost of basic expenditures
- Access to insurance products tailored to small-scale producers’ needs
- Emergency response programmes
- Safe storage of water, food and produce stocks
- Ensure access to climate-proof roads, internet and telecommunications to permit access to emergency help and input and output markets
- Ensure membership and strengthening of the capacity of social networks, producers’ and marketing organizations for mutual support among members in the event of a shock

It is observed that some interventions, such as promoting membership in and strengthening producers’ groups and social networks, can build both anticipatory and absorptive capacity.

### 3 - How can the project support the target groups build systems for systematic learning after a shock as the basis for identifying and implementing adaptations to their livelihoods in a build-back-better process?

Learning and building the capacity to adapt and transform will feed back into both the anticipatory capacity that reduces the severity of impacts from shocks and the absorptive capacity, ensuring a quick and better recovery. Learning among community members needs to happen deliberately and regularly to enable actors to collectively find new solutions. The more groups and voices are included in the conversation, the better the quality of the learning process.



#### 4 - What interventions can support the target groups withstand stressors and enable them to pursue their aspirations in their context despite these stressors?

Interventions that address risks and vulnerabilities to stressors will largely build all three types of resilience capacities at the same time.

Generic examples of intervention areas to build the capacity to cope with stressors:

- Facilitation of access to information on climate trends, forecasting, vulnerability assessments and transformational adaptation options with GHG emission reduction co-benefits
- Gender training and strengthening of the decision-making power of women and youth in community and farmers' organizations and cooperatives
- Skill building to achieve a quality job or self-employment for women and youth
- Facilitation of access to finance and business development services for women and youth
- Strengthening of access to tenure security for women, youth and Indigenous Peoples

## HOW-TO-DO GUIDANCE THE RESILIENCE DESIGN AND MONITORING TOOL (RDMT)

The objective of the Resilience Design and Monitoring Tool (RDMT) is to support the design of resilience interventions and monitor their impact in terms of increasing household resilience capacity. The RDMT consists of a matrix that builds the project's ToC, putting resilience at the core. **The matrix is structured around its vertical axis (the four risk clusters) and horizontal axis (the seven steps).**

The vertical axis depends on the risk clusters that the project will seek to address. In the horizontal axis, every step corresponds to a column in the resilience matrix (**FIGURE 2**), starting with the definition of the shocks and stressors in the four overall risk clusters that affect a project's target groups (column A). The seven steps facilitate the identification of: specific risk from stressors and shocks; related vulnerabilities of the different project target groups; interventions to address them and build resilience capacity; expected results; intervention adoption monitoring questions and scores; intervention results monitoring questions and scores; and computation of the final adoption and resilience indices.



**FIGURE 2: THE RDMT MATRIX**

Theory of change							
Design					Monitoring		
A. Risk Type	B. Specific risks (Step 1)	C. Vulnerability (Step 2)	D. Project interventions (Step 3)	E. Expected results (Step 4)	F. Adoption monitoring questions (Step 5)	H. Results monitoring questions (Step 6)	I. Adoption Index (AI) and Resilience Index (RI) (Step 7)
Climate and degraded ecosystems	Prolonged dry seasons	No access to rain water harvesting and irrigation	Water harvesting cisterns and drip irrigation systems	Households do not have losses due to lack of irrigation that exceed 20%	Do you have access to a secure water source for at least ¼ of your cropland?	In the past 2 years, has your household experienced crop losses due to water shortages, and how severe have these losses been?	
Lack of governance and insecure access and tenure to land and other natural resources							
Social and cultural exclusion drivers							
Insecure access to markets; market fluctuations; and other economic factors							



## THE FOUR RESILIENCE RISKS CLUSTERS

The RDMT is composed of four possible risk clusters. Although not intended to be comprehensive, these are the risk areas that have emerged most clearly from IFAD's experience in addressing vulnerabilities and enhancing resilience capacities with rural communities under its rural poverty vulnerabilities and enhancing resilience capacities with rural communities under its rural poverty mandate. The grouping of the risks in these four clusters provides a basic structure for organizing project interventions. It also allows for tailoring the tool to different contexts by selecting one or more relevant risk clusters. The four risk clusters are:

**CLIMATE CHANGE AND DEGRADED ECOSYSTEMS:** The consequences of climate change are being felt on every continent across the world and most acutely by rural poor people who live in remote areas and/or whose livelihoods have high exposure and sensitivity. These consequences include a higher incidence of results of extreme weather events such as droughts, storms and floods, often wreaking havoc on the agricultural production systems underpinning most rural livelihood systems. Consequences are further exacerbated by the combined effects of ecosystem degradation (including pollution; decreased vegetation; soil erosion and land degradation; disruption of the hydrological functioning of watersheds and groundwater recharge; biodiversity loss; etc.). With climate change impacts on agriculture expected to grow, reducing agricultural systems' vulnerability to climate change and strengthening the climate resilience capacities of small-scale producers and rural households are critical for securing income stability, food security and nutrition. Interventions to enhance resilience and adapt to the impact of the changing climate are mainstreamed in all IFAD projects and are one of the key priorities for action in the international development community.

**LACK OF GOVERNANCE AND INSECURE ACCESS AND TENURE TO LAND AND OTHER NATURAL RESOURCES:** Lack of proper participatory institutions for governance of natural resources can create stressors for vulnerable groups excluded from decision-making, access and user rights to land and natural resources. This can exacerbate the impact of shocks in an already constrained situation with a lack of resources to recover. In a situation of scarce resources, such as water during prolonged

droughts, weak governance institutions can create conflicts and the inability to share and mobilize social capital for adaptation measures (e.g., rainwater harvesting structures). Tenure security directly influences the extent to which farmers are willing to invest in production and land management. Adaptation often requires the implementation of long-term strategies (e.g. planting trees, increasing soil organic matter, increasing functional biodiversity) that fundamentally need tenure stability as a key incentive. In the absence of tenure security, many farmers see little reason to adopt practices in long-term land conservation and regenerative natural resource use because there is no guarantee that they will be able to reap their benefits. Finally, land and natural resource tenure security can open up pathways to accessing finance, thus allowing farmers to build their capacity to withstand shocks and stresses. It also contributes to a sense of stability that can positively influence societal relations, encouraging the sharing of benefits among individuals and groups.

**SOCIAL AND CULTURAL EXCLUSION DRIVERS:** Social exclusion remains pervasive in many rural areas around the globe and has a significant impact on both development and resilience outcomes (e.g. for women, youth and Indigenous Peoples). Social and cultural exclusion undermines disaster preparedness, risk management and response efforts. It can negatively affect access to participation and decision-making in producers' groups and income-generating activities, credit, technical assistance, land and other production assets. Social and cultural exclusion constitutes a stressor for the affected groups and decreases their capacity to withstand shocks. These groups need targeted interventions that can open up access pathways to skills and assets, empowerment and participation. More inclusive communities, specifically with respect to women and youth, are better suited to learn and build back better, as they can deploy better organizational diversity and build on more capacities to allow for transformative changes.

**INSECURE ACCESS TO MARKETS, MARKET FLUCTUATION AND OTHER ECONOMIC SHOCKS:** Difficulty accessing markets and commercializing products, as well as vulnerability to market fluctuations, are key risks facing the majority of rural households. Seasonal volatility in the prices of key goods, especially staples, often make farmers and their families vulnerable to food insecurity as well. Commercial disruption is often a key driver of the deterioration of rural families' well-being. In addition, lack of bargaining power and terms-of-trade shocks often adversely affect rural communities that produce goods for export. Having increased access to markets, the bargaining power to better negotiate prices and cold storage facilities to buffer against market fluctuations and reducing dependence on single cash crops and goods through diversification are all fundamental to increasing rural households' resilience to economic shocks.

The four risk clusters are essential entry points for holistically and systematically guiding the design of resilience interventions. Although, as mentioned, a project might not necessarily address all of the four clusters, a corollary of this classification is that a rural household will have greater resilience when: 1) it builds its production capacities in a system that preserves natural resources, maximizing the buffering effects of ecosystems on different types of natural shocks and stressors; 2) it has clear and stable governance structures that ensure that land and natural resources are accessible to all equally, preventing conflicts among different stakeholders within a community or between communities, thus strengthening social cohesion; 3) it includes youth, women, Indigenous Peoples and other vulnerable groups in decision-making, economic activities and sound social protection mechanisms, maximizing organizational resilience and ensuring that no one is left behind and all can contribute to resilience-building innovations; 4) it has stable access to markets, whether local, regional or international, and minimizes the impact of fluctuations and economic shocks on its livelihood.



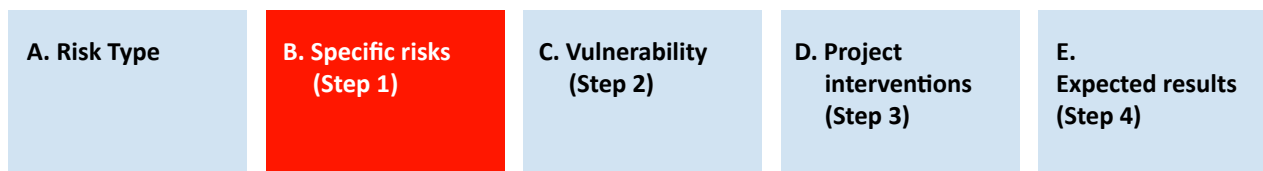
## THE SEVEN STEPS IN DESIGNING FOR AND MONITORING RESILIENCE

### STEPS 1 TO 4 - DESIGN

Steps 1 to 4 (columns B-E in **FIGURE 2**) support project designers (or communities or cooperatives preparing a development/investment/business plan) in designing for resilience as part of the project's ToC, as illustrated with an example in Figure 3. The analysis of risks and interventions to address them (steps 1-3) should draw on analyses related to climate and environmental and social safeguard assessments that are standard to investment project design processes and national/subnational policies. In IFAD, these are mandated by the SECAP and other relevant IFAD policies and strategies (e.g. climate, biodiversity, targeting, social inclusion, gender), as well as the COSOP, which provides the first layer of analysis of the main environmental, climate and socio-economic risks and vulnerabilities in the country's rural context.

**FIGURE 3: EXAMPLE OF STEPS 1 TO 4 FOR A RESILIENCE-BUILDING INTERVENTION FROM A PROJECT IN SUDAN (SNRLP)**

A. Risk Type	B. Specific risks (Step 1)	C. Vulnerability (Step 2)	D. Project interventions (Step 3)	E. Expected results (Step 4)
Lack of governance and insecure access and tenure to land and other natural resources	Stock routes are being blocked by crop farming, new borders and armed conflicts to the south and growing desertification processes accelerated by climate change to the north, leading to conflicts between mobile pastoralists, agropastoralists, and crop farmers along the route.	Lack of effective conflict resolution mechanisms along stock routes.	The project will strengthen existing conflict resolution centres or establish new ones along stock routes.	Mobile pastoralist, agropastoralist and crop farmer households have access to conflict resolution mechanisms that are able to avoid violent conflicts along stock routes.



### STEP 1 : IDENTIFY KEY RISKS AND THEIR IMPACTS

This step is designed to answer the following questions: what shocks and stressors have historically caused or are currently causing losses and damage or are expected in the future to prevent the development of livelihood activities among the project target groups in the project area? What are or have been the historical, current and expected future impacts? Are some shocks and stressors more important than others in terms of their intensity, frequency and depth of impact, and do some shocks and stressors impact some target groups more than others?

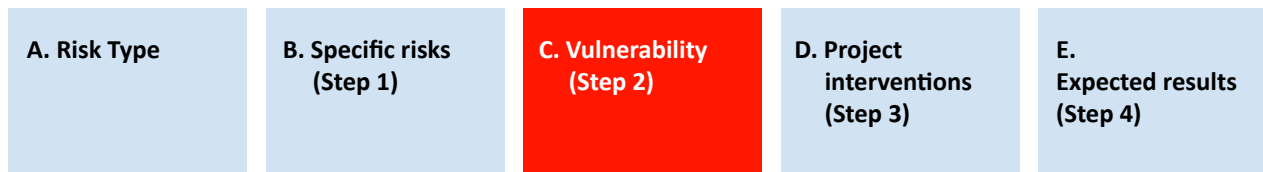
The descriptions of the specific shocks and stressors are derived from the context analysis and SECAP and grouped according to the four main risk clusters. The number of specific risks of shocks and stressors for each cluster varies with the context, and a new row can be opened for each specific risk within each risk cluster. All risk clusters are not always relevant for a particular project. In some cases, the RDMT matrix can be composed of just a few or even only one of them. The climate change and degraded ecosystems cluster is always included, however, as no rural populations or small-scale producers escape the risks of shocks and stressors from climate change.

During project implementation, to learn more directly from the rural households participating in the project and the corresponding control group, the risk identification and assessment can be further verified by asking some initial questions in the household questionnaires developed in step 5 and 6. The data from these questions will enrich the data analysis and learning about coping strategies in Step 7. These questions include:

1. What are worst shocks and stresses<sup>8</sup> your household has faced in the past 24 months? (they can be linked to climate, environment, economy and health)
2. How severe was the negative impact of each of these shocks and stressors on the livelihood of your household over the 24 months? (low, moderate, high)
3. What action have you taken in your household to deal with these shocks and stressors?
4. To what extent has your household been able to recover its livelihood over the past 24 months in the wake of these shocks and stressors?

These questions provide the project team with important information on the actual shocks identified in STEP 1, and to put them into perspective with the adoption and result scores of the resilience- building interventions, the project offers to improve investment targeting based on the findings from the baseline and mid-term surveys.

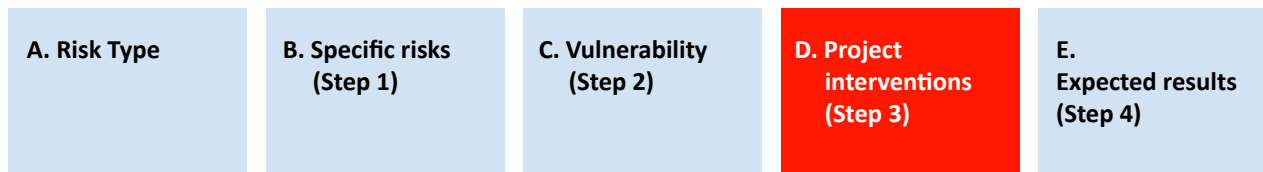
<sup>8</sup> In survey software like Surveys Solutions and Kobo, each stressor or shock can be set as %rostertitle%, and the following questions can be asked for each of the shocks and stressors identified.



## STEP 2: IDENTIFY KEY VULNERABILITIES

STEP 2 seeks to understand what makes the households particularly vulnerable to the risks identified in STEP 1. The questions that this step seeks to answer are: What makes the households in the different target groups particularly vulnerable to the impact (losses and damages or constraints to the development of current and new livelihood activities) of the identified shocks and stressors? What makes them particularly exposed and sensitive to these risks? What are the current coping strategies and what do the target groups think could help them cope better? What do the households lack to **anticipate** (prevent) the impact of shocks and stressors, **absorb** (withstand and recover) and **adapt** (build back better and make changes in livelihood activities) to a shock or stressor? What is currently lacking to reduce impacts and withstand future shocks and stressors?

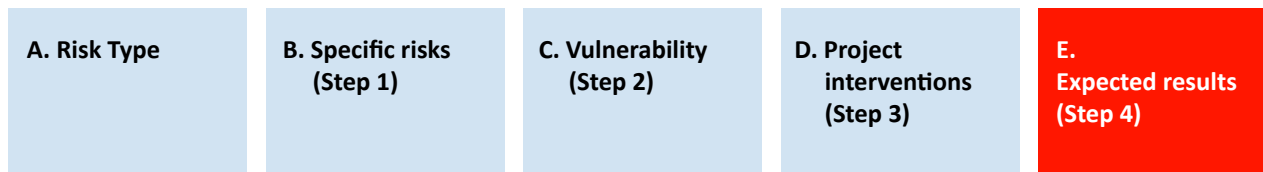
Note that a risk can be linked to multiple specific vulnerabilities (for example, the risks of rising temperatures and rainfall variability can result in the loss of harvests if small-scale producers are using “thirsty, long-cycled crops”, employ poor soil management practices that reduce their water storage capacity and lack an efficient irrigation system and secure water source for water harvesting and storage facilities). Also note that not every vulnerability will always result in a project intervention, as some vulnerabilities may not fall within the remit of the specific project. In that case, those risks and vulnerabilities should be included in the RDMT resilience matrix only if the project wishes to determine the consequences of not addressing them in the project’s ToC.



### STEP 3: IDENTIFY PROJECT INTERVENTIONS

Based on the previous diagnostic and vulnerability analysis, the design team designs the project interventions to address the vulnerabilities identified in STEP 2. Interventions are designed by identifying investments and activities that can support beneficiaries in building their capacity to **anticipate** (prevent or reduce) the impacts of the identified shocks and stressors, **absorb** (recover rapidly and effectively after a shock and withstand stressors) and **adapt** (make changes, build back better). The 3As are often interlinked and are not always easily separated (see section “Applying the framework in designing interventions for resilience”). Often, while introducing measures to strengthen anticipatory and absorptive capacities, adaptive capacities are also enhanced. Therefore, a project intervention will often support more than one of the 3As.

Note that in many rural contexts, different project target groups have different vulnerabilities and hence, needs for resilience-building interventions. These differences often depend on their livelihood (e.g., small-sale crop farming, fishing or pastoralism), which determines both the possible sources of vulnerability and the coping strategies that the different groups can adopt. In cases where projects address different target groups, it is therefore important to either i) build a specific resilience scorecard table for each target group (meaning that a project can have more than one resilience scorecard matrix) or; ii) design enabling conditions in the same resilience survey questionnaire in order to address specific questions only to the relevant groups (this can be done with survey software such as Surveys Solutions or Kobo). Note that in this case, non-relevant questions should not be included in the calculation of the indices for the household involved, as explained below.



#### STEP 4: IDENTIFY THE EXPECTED RESULTS

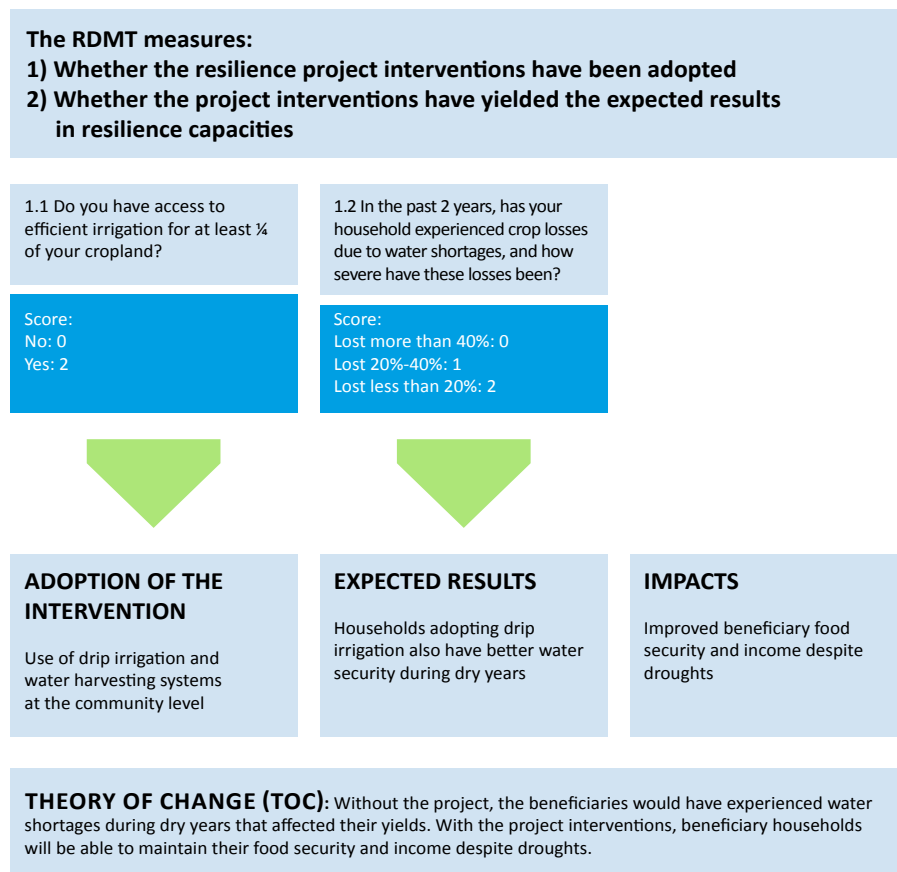
In this step, every intervention is associated with expected results in terms of: what is the results we expect to see when a household and its community benefit from a project resilience-building intervention by adopting it, changing behaviour or gaining access to new assets and capacities? This step is critical, because it details the resilience ToC of each of the interventions on which the subsequent resilience monitoring questions are based.

As seen in Figure 3, clarity in defining what the project intervention aims to achieve is important in terms of adoption (e.g. there are functioning conflict resolution centres along the stock routes used by pastoralists) and results in resilience capacities (e.g. all eventual disputes are settled before they escalate into violence). Clarifying specific objectives in terms of both adoption and results, will facilitate the next two steps (STEP 5 and STEP 6), where the adoption and the result questions for the resilience household survey will be formulated, as well as the possible answers linked to the different scores that will make it possible to generate an adoption and a resilience index. The draft questions and related scores should be developed during project design and subsequently revisited and finalized with project implementers and partners before the baseline survey (see STEP 5 and 6 below).

## STEPS 5 TO 7 – PROJECT IMPLEMENTATION AND MONITORING

As seen in **FIGURE 4**, a key feature of the RDMT is that it measures the improvement of resilience capacities at two levels: i) the extent to which project interventions designed to enhance resilience capacities have been adopted; and ii) whether the adoption of these interventions has yielded the expected resilience results (Figure 2 Step 5/Column F and Step 6/Column H). This allows for analysis of the validity of the project’s theory of change for resilience interventions. Another key feature is that it uses a uniform three-point scoring system to convert qualitative observations by households to quantitative data.

**FIGURE 4: HOW THE RDMT MONITORS RESILIENCE**



At project start-up, the questions and scorecard are revisited and adjusted with the project management unit (PMU) and field staff. They are subsequently piloted with beneficiary households to capture their insights and feedback before they are finalized and included in the baseline survey of a sample of target beneficiary groups and matching control groups. The scorecard survey questions are integrated into the Core Outcome Indicator baseline survey, along with other project-specific logframe indicators<sup>10</sup>. Once the field data has been collected, the adoption and resilience scores and indices are calculated in Step 7 (Figure 2, Column I). A disaggregated analysis (e.g. by target group, gender, geographical location) of the results is used to guide the targeting of the project’s resilience-building interventions. The survey and computation of the resilience index scores should be repeated as part of the project’s mid-term and completion surveys.

<sup>10</sup> Information on IFAD’s Core Outcome Indicator survey can be found [here](#). Details on how to integrate the RDMT questions in the COI will be clarified in forthcoming technical guidance notes.



The scoring system used for monitoring both adoption (Step 5) and results (Step 6) is a 0-1-2 system:

- **A score of (0) is assigned when the answers to all adoption questions are NO, meaning no adoption. For the result question, a score of (0) indicates that there is no result on resilience capacities achieved and detected in terms of what was expected according to the intervention's ToC.**
- **A score of (1) is assigned when some, but not all, adoption questions are answered with YES, indicating that the project intervention has been adopted only partially. For the result question, a score of (1) indicates that the expected result in resilience capacities according to the intervention's ToC is partially being achieved and detected.**
- **A score of (2) is assigned when the answers to all adoption questions are YES, indicating that the interventions have been fully adopted. For the result question, a score of (2) indicates that the expected result in resilience capacities according to the intervention's ToC is being fully achieved and detected.**

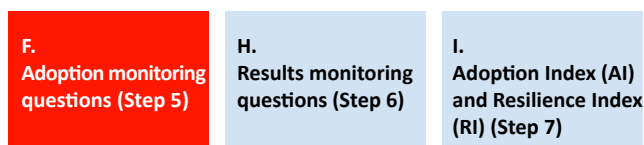
As mentioned, ensuring that expected results are clearly defined in STEP 4 is critical to designing the scoring system so that it can adequately assess the level of adoption (e.g. two climate-smart practices) and of results achieved (e.g. losses are less than 30%). When formulating the questions and related scores, a certain degree of technical expertise and sound judgement is required to decide the extent to which a project intervention is considered partially or fully adopted and achieving the expected results. A continuously updated question bank and related scoring from projects using the RDMT [is available on this page](#) as inspiration for project teams preparing scorecard questions for a specific project.

The authors of this HTDN suggest using the following open-source tools to facilitate data collection and analysis:

- Data collection:  
[Surveys Solutions](#)  
[Kobo](#)
- Data analysis:  
[Jasp](#)  
[Jamovi](#)

Note that since the RDMT is project-specific, and a resilience scorecard with tailored adoption and result questions should be developed for each project following the steps in these guidelines, questions (and the number of questions) will vary from project to project and within risk clusters relevant to the specific project context. The simple indexation presented in STEP 7 allows for comparative analysis regardless of the number of questions.

## STEP 5: FORMULATION OF ADOPTION MONITORING QUESTIONS AND SCORING



In this step, questions and relevant answers are formulated in a manner that ensures that adoption of the project intervention can be verified. Assigning a score of (0-1-2) to each answer will enable the project team to convert qualitative observations to quantitative variables and monitor progress in the adoption of resilience-enhancing interventions. Whenever adoption questions can be answered with a simple yes or no, there is no obligation to include the intermediate value (1). In such a binary case, the value zero (0) is assigned when the answer is “NO,” meaning no adoption, and the value two (2) is assigned when the answer is “YES,” meaning full adoption.

### EXAMPLE FROM SNLRP - SUDAN

Adoption Question	Score (Y/N)	
Do you have access to veterinary services?	Yes = 2	No = 0

Nevertheless, in some cases resilience-building project interventions may require two linked questions to assess the extent to which the project intervention has been adopted. Similarly, multiple possible answers might be required to reply to one question and assess whether the project intervention has been fully or only partially adopted. In these cases, all three scoring values (0-1-2) need to be used.

### EXAMPLE FROM PICSA - LAOS

Question(s) checking adoption of membership in a producers’ group and participation in a community planning process where resilience building can be embedded and through which the household can receive support to understand and cope with shocks and stressors.	Score		
1. Are you or anyone in your household a member of a producers’ group?	No = 0	Yes to one question = 1	Yes to both questions = 2
2. Have you or anyone in your household participated in planning resilience building activities for your village’s development?			

To ensure comparability between different projects, the 0-2 scoring system must always be used. In certain cases – for example if a question refers to a continuum (e.g. number of climate resilience practices adopted in cropping systems) – the option of converting responses to ranges can be used to maintain the 0-2 scoring system.

### EXAMPLE FROM SNRLP - SUDAN:

Adoption Question	Score		
In the past two years, have you adopted at least two climate-resilient farming practices?	No = 0	Yes, one to two practices adopted = 1	Yes, three or more practices adopted = 2

The above example from the SNRLP in Sudan illustrates the importance of carefully designing the scoring criteria. The number of practices corresponding to partial adoption could have been one to three, and to full adoption, four or more. Definition of the criteria for each score provided in STEP 4 is a critical step and requires consideration of the context and relative impact of a project intervention – in this case, each climate-resilient farming practice – in building resilience capacities.

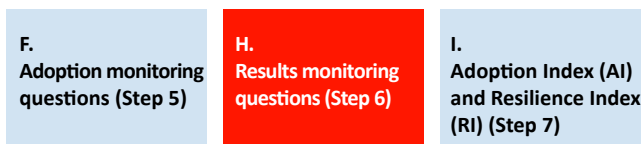
Note that, because the questions are asked at the baseline, when interventions are yet to be adopted, and addressed to a control group not receiving project interventions, **questions should avoid naming the intervention with the specific term used in the project.** For example, if a project will be supporting the development of the Community Livelihood Resilience and Adaptation Plan (CLRAP), avoid asking “has any member of your household participated in the preparation of a CLRAP for your community?,” but instead ask, “has any member of your household participated in community planning of activities that can assist your community in adapting to the changes in climate and be more prepared for difficult climate events?”. The idea is to capture the specific objective and content of the intervention without using the specific name an intervention might have in the project.

### EXAMPLE KENYA - KCEP-CRAL:

In some cases, it might be useful to gather information in the household survey that will not be used to generate the adoption score and index but might be relevant for the data analysis in step 7 and learning on resilience. For example, if the intervention is about promoting soil fertility management practices to improve the climate resilience of cropping systems, the project might wish to know which practices are adopted more than others and, eventually, are more strongly correlated with the resilience result.

Adoption Question	Results Question
<p>3.1 Do you apply any of the following soil conservation practices?</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Minimum ploughing/tillage, reducing soil compaction and maintaining soil structure</li> <li><input type="checkbox"/> Continued soil coverage</li> <li><input type="checkbox"/> Crop rotation cereals with nitrogen-fixing legumes like cowpeas, green grams or beans</li> <li><input type="checkbox"/> Ditching, to reduce erosion by wind and water</li> <li><input type="checkbox"/> Physical soil conservation structure such as trash lines, soil contour bunds, terracing or retention ditches</li> <li><input type="checkbox"/> Mulch/compost/manure application to maintain or restore soil organic content</li> <li><input type="checkbox"/> Soil mulching, rainwater harvesting</li> <li><input type="checkbox"/> Crop residue management</li> <li><input type="checkbox"/> Integrated soil fertility management - mulch, compost, crop residues, green manure, inorganic fertilizer combination</li> </ul>	<p>3.2 Has the adoption of these practices increased soil fertility (improving yields) and reduced production costs, in particular of inputs (such as inorganic fertilizers, fuel, etc.)?</p> <p><b>Score:</b>  <b>No: 0 points</b>  <b>Yes, soil fertility has improved but input production costs (inorganic fertilizers) are the same: 1 point</b>  <b>Yes, soil fertility has improved and input production costs (inorganic fertilizers) have been reduced: 2 points</b></p>
<p><b>Score:</b>  <b>None: 0 points</b>  <b>One or two practices: 1 point</b>  <b>Three or more practices: 2 points</b></p>	

## STEP 6: FORMULATING RESULTS MONITORING QUESTIONS AND SCORES



In this step, a question and three possible answers linked to a score are formulated to determine whether adoption of the project intervention is actually increasing the household's capacity for resilience to the specific shocks and stressors that the intervention is attempting to address. The question is formulated to assess the intervention's effectiveness in reducing the medium- to long-term impact of shocks and stressors.

The effectiveness of the resilience intervention is defined as the extent to which adoption of the project intervention produces expected outcomes in terms of enhanced resilience capacity. Resilience in the RDMT approach is therefore an observable outcome of interest that the different interventions aim to achieve (e.g. a reduction in crop losses, despite shocks and stressors; access to water, despite shocks and stressors; increased access to markets, despite shocks and stressors), while long-term sustainable achievement of food security and nutrition, income and transition out of poverty constitute the long-term impact of the intervention and are monitored through the COI and IFAD's impact assessments. Therefore, long-term positive impacts of the interventions on food security, income and poverty reduction, despite shocks and stressors, are derived from successful achievement of the resilience results monitored by the RDMT. This hypothesis can be tested via statistical analysis, studying correlations between higher results in the COI and IFAD's impact assessments and the RDMT adoption and resilience indices.

Likewise, in step 5, a question and corresponding set of answers are formulated. The scoring system used is the same, including (0), (1), and (2) values.

## EXAMPLE FROM SNRLP - SUDAN:

Result Question	Score		
During the past two years, to what extent has your access to shared resources improved (e.g. fodder, water, land)?	Not improved: 0	Slightly improved: 1	Improved significantly: 2

Note that while different specific risks can link with more than one vulnerability and, similarly, a vulnerability can be addressed with multiple project interventions, insofar as possible each of the adoption and result questions should correspond to one project intervention and expected result.

The example below shows an adoption and a result question and their scores from the SNRLP Sudan project.

**FIGURE 5: EXAMPLE OF STEP 5 AND 6 FOR A RESILIENCE-BUILDING INTERVENTION FROM THE SNRLP SUDAN PROJECT**

MONITORING IF THE INTERVENTION HAS BEEN ADOPTED (Step 5)	ADOPTION SCORE	MONITORING IF THE ADOPTION OF THE INTERVENTION HAS PRODUCED THE EXPECTED RESULTS (Step 6)	RESULT SCORE
1.1 Is your household using wood saving technologies such as gas cooking stoves and bricks as building material?	2	1.2. During the past two years has the need for wood for your household (HH) decreased?	1
Score: No: 0 Either gas stoves or bricks: 1 Both gas stove and bricks: 2		Score: No, the HH is using the same amount of wood (or increased): 0 The HH is using a bit less wood: 1 The HH is using significantly less wood:2	

As shown in the example above, it is important to note here the result question is not directly referring to the project intervention (e.g., do gas cooking stoves and bricks help you to reduce wood consumption?). What we monitor instead is the outcome we expect to see if the related intervention is or will be adopted (e.g., during the past two years has the need for wood for your household decreased?). This way of crafting the result question allows us to stay open to the fact that the desired result might be achieved through other means than the resilience building intervention offered by the project. This facilitates the learning offered by the RDMT for improving the resilience theory of change in project design and implementation (see also STEP 7 on data analysis). In the mid-term and completion surveys the actual results achieved through adoption of the intervention will be detected to measure the change compared to the baseline situation.

In summary, on the development of the resilience questions and scorecard: questions are drafted at the project design level but revisited at project start-up with the PMU, field staff and the company hired to administer the project's baseline survey. Insights are gathered from a pilot administration of the questionnaire to a sample of project households before the final questionnaire is integrated into the household baseline survey. The target household is asked the questions at the start of the project (baseline study), at mid-term, and at the end of the project as part of the completion survey. To keep the tool simple, it is recommended that the maximum number of questions in a questionnaire be kept **to less than 30** (meaning 15 sets of adoption + result questions).

Following good M&E practices in IFAD, control groups are included in the baseline and endline surveys to validate attribution. The questions should preferably remain unchanged during project implementation. This will ensure the comparability, consistency and integrity of results.

**Note that in all cases, whenever a question pair is applicable, both the adoption and corresponding result questions should always be asked.** This ensures that statistical analysis can be performed to identify correlations, studying possible causalities and therefore inform data-driven project implementation and adjustments to the ToC and investment targeting. Having both questions makes it possible to observe both positive and negative interactions between the adoption and the result of all interventions. If a question pair is not applicable to a specific subtarget group/household, it is important that it be marked with N/A and not with a (0), so it can be removed from the final calculation of the household adoption and resilience result index.

## STEP 7: DATA ANALYSIS AND REPORTING

**F.**  
Adoption monitoring  
questions (Step 5)

**H.**  
Results monitoring  
questions (Step 6)

**I.**  
Adoption Index (AI)  
and Resilience Index  
(RI) (Step 7)

In this last step, various data analyses can be conducted, including calculation of the final household resilience index score in the treatment and control groups. Since the adoption and results questions are directly linked to the different resilience-enhancing interventions, the RDMT allows for disaggregated analysis by intervention, target group, geographical area, gender, age group, agroecological zone, etc., as well as by production and livelihood system to support learning and improved targeting and delivery of resilience interventions. This learning supports an improved understanding of the effectiveness of different resilience-building interventions for rural households with different characteristics and can also support policies, strategies and programmes for scaling up proven solutions.

RDMT data analysis is based on two indices and can yield valuable information on both investment targeting and resilience monitoring.



## THE RDMT INDICES

**Adoption index.** Based on the adoption scores, an adoption index for each household can be calculated by dividing the SUM of all the adoption scores achieved by the household (Figure 6, Column G) by the maximum adoption score possible if all interventions were fully adopted (i.e. the total number of interventions included in the scorecard multiplied by 2 minus the number of N/A questions multiplied by 2). This number, calculated as a percentage, expresses the extent to which the resilience-building project interventions have been adopted by the household.

**Resilience index:** Based on the result scores, a result index for each household can be calculated by dividing the SUM of all the result scores achieved by the household (Figure 6, Column I) by the maximum result score possible if all interventions were fully achieving the desired resilience results in terms of enhanced resilience capacities vis-à-vis the identified risks (i.e. the total number of interventions included in the scorecard multiplied by 2 minus the number of N/A questions multiplied by 2). The project's resilience index can be calculated as the average of all household resilience indices.

Note that, it is important that questions marked with N/A for a specific household not be included in the calculation of the adoption and resilience result indices for this household

## RESILIENCE INVESTMENT TARGETING

The RDMT data analysis provides useful information for investment targeting in support of project implementation. The divergences from adoption and result scores detected through the household scorecards can provide useful information on the likelihood of an intervention succeeding. For example, if high adoption of drip irrigation systems corresponds to high results in terms of water available for production (detected through the result question), prioritizing drip irrigation should be considered. In contrast, the opposite case (high adoption rate and low results rate), might indicate that the drip irrigation systems are not effective in providing enough water for households, which could be due to an inadequate water source or a drip irrigation system that is poorly maintained or marked by high levels of salinity. Finally, in the same example, a low adoption rate at the baseline and a high results rate might in-

dicade that the household is managing to obtain enough water without the need for a drip irrigation system, meaning that there are other irrigation systems or means to obtain enough water (e.g. soil water harvesting) that the ToC is not considering and could be scoped.

The disaggregated analysis by subtarget group, farming/livelihood system or geographical area/ agroecological zone will identify the areas and/or subtarget groups in which certain resilience building interventions are more needed than others and where and for whom they seem to be more important and effective. Disaggregated analysis can also help to detect which communities already seem to have adopted good resilience-building interventions that others can learn from through cross-visits.

This can be done with correlation analysis. The analysis can be performed either in Excel with the "COUNTIF" formula (counting whether respondents who are reporting full adoption also report full results) or more advanced ones (such as "CORREL") or through other statistical software (e.g. JASP or other SPSS software and running a chi-square test<sup>11</sup>).

<sup>11</sup> A chi-square ( $\chi^2$ ) statistic is a measure of the difference between the observed and expected frequencies of the outcomes of a set of events or variables. Chi-square is useful for analysing such differences in categorical and ordinal variables, such as the ones that the RDMT scores produce.

**FIGURE 6: EXAMPLE OF AN ADOPTION INDEX AND RESILIENCE INDEX CALCULATION (NOT INCLUDING ALL PROJECT INTERVENTIONS) FROM THE LAOS PICSA PROJECT**

Adoption question (F)	Adoption score (G)	Result question (H)	Result score (H)
<p>1.1 Has your community participated in constructing or improving infrastructure and the adoption of other measures to control flood water and prevent landslides (e.g. retention walls, structures for diversion and storage of flood water, revegetation of hillsides and adoption of rules to protect the vegetation)?</p> <p>Score: No: 0 - Yes: 2</p>	2	<p>1.2 The last 5 years, have your household experienced loss of your crops, livestock, or physical property due to floods or land-slide, and how significant has these eventual losses been?</p> <p>Score: Very significant: 0 - Significant: 1 - Not significant: 2</p>	1
<p>2.1 Do you have access to a secure water source for at least 1/4 of your households' land during the dry season?</p> <p>2.2 Is anyone in your household an active member of a water users association (e.g. participate in meetings and O&amp;M activities)?</p> <p>Score: No: 0 - Yes to one question: 1 - Yes to both question: 2</p>	1	<p>2.3 The last 5 years, have your household experienced loss of your crops due to lack of access to water, and how much has this loss been?</p> <p>Score: Lost more than 40%: 0 - Lost between 10% - 40%: 1 No significant loss (&lt;10%): 2</p>	1
<p>3.1 Do you have access to quality extension services and technical advice on practices you can adopt to make your crop production more resilient to climate related shocks (e.g. higher temperatures in the dry season, more variability in rainfall)?</p> <p>3.2 Have you adopted at least two climate resilient practices in the crop farming (e.g. shifting to more adapted varieties to the new climate conditions, diversification of crops and intercropping to spread risks, mulching, minimum tillage, agroforestry/ planting of trees, soil retention structures such as earth bounds, retention walls or terraces)?</p> <p>Score: No: 0 - Yes to one question: 1 - Yes to both questions: 2</p>	2	<p>3.3 To what extent do you experience more stable or even increasing yields in years with particularly difficult climate situations such as low rainfall, heavy rains or particularly high temperatures in the dry seasons?</p> <p>Score: No increase in yields and suffers from crop losses in years with particularly difficult climate conditions: 0 Stable yields and only limited losses in years with particularly difficult climate conditions: 1 Increased yields despite inter-year variations in climate conditions: 2</p>	2
Total scores	5		4
Adoption Index (5/6*100)	83%	Resilience Index (4/6*100)	66%



In the example above, the overall adoption index is higher than the resilience index. As we have seen, this could mean two things: either the project interventions are adopted but are inadequate for producing the desired household resilience results (the ToC is not fully valid and needs to be revisited), or the desired result simply needs more time to materialize, which may be the case at project mid-term. Having these two indices allows the project team to make different kinds of judgments about the project, validate the consistency of the ToC in regard to specific interventions, specific target groups or geographical areas and adjust intervention delivery.

### RESILIENCE MONITORING

The household resilience index (and eventually, different disaggregated values analysed) obtained from the baseline survey at the start of the project (T0) will be compared to the subsequent surveys at mid-term (T1) and project completion (T2). The surveys are integrated into the surveys of COI or other project questionnaires at the three points in the project cycle, using household samples representative of the different project target groups and corresponding control groups.

By integrating the resilience scorecard into the project's M&E system and administering the scorecard questionnaire as part of the project's baseline survey (T0), mid-term outcome survey (T1), and completion survey (T2), changes in household resilience capacity can be monitored and improved over time. The RDMT therefore offers the possibility of monitoring the resilience outcome in the project's logframe by comparing the average household resilience index value from the different surveys at T0, T1 and T2. The project resilience indicator could, for example, be: **number of households that have achieved at least 70% in their project-specific resilience index at the end of the project.** However, formulating the resilience indicator this way requires some judgement of what the desired and realistic resilience index value that the project can achieve would be on average across the beneficiary households if the project's theory of change is valid and project implementation is effective (e.g. it could be 70%, as in the example, or 60% or 80%), which might be challenging. Since the absolute resilience index value is project- and context-specific, this formulation also poses challenges in terms of comparability and aggregation across projects and even across different target groups in the same project with different livelihood, vulnerability and resilience conditions.

Alternatively, it is therefore recommended that the indicator be formulated as: **number of households with at least a 20 percentage-point increase in their resilience index value at the end of the project.** This would make it possible to compare and aggregate households with increased resilience across different target groups and projects in a portfolio. The only judgement that needs to be made is what a desirable and realistic increase target would be on average for a given portfolio and across target groups (e.g. 20 percentage points, as in the example, or 15 or 30). If this is only deemed possible at the individual project and target group level, the aggregate indicator could leave out the qualifier and simply be: **Number of households with increased resilience.**<sup>12</sup>

<sup>12</sup> For a full list of suggested logframe indicators, see IFAD Resilience Framework Note, forthcoming.

Note that in some cases, not all the questions will apply to the household questioned. Depending on the context, the designers of the RDMT matrix might decide to pose specific questions ONLY to a specific group (e.g. the questions are posed ONLY to members of producers' organizations; women or youth). When a question does not concern the household questioned, it should be marked as N/A and excluded in the calculation of the final adoption and resilience indices of that household.

				Resilience and Adoption Indexes
HH1 (respondent is a member of a PO)	Q1	Q2 (question only for POs members)	Q3	$Q1+Q2+Q3/6$
HH2 (respondent is not a member of a PO)	Q1	Q2 (question only for POs members)	Q3	$Q1+Q3/4$

Example of an analysis and hypothesis that can be tested analysing RDMT data through Excel or other statistical analysis software (such as JASP):

#### EXAMPLES OF ANALYSIS FOR ALL DATASETS:

1. Descriptive analysis using frequency tables, which is counting how many households in a given gender or age group (of household heads) or geographical area are adopting or obtaining the best results (in Excel, using the “COUNTIFS” formula, or in JASP, through the “descriptives” option)

- Which GENDER is adopting more?
- Which COUNTY/DISTRICT/VILLAGE is adopting more?
- Which AGE is adopting more?
- Which GENDER has a higher resilience index?
- Which COUNTY/DISTRICT/VILLAGE has a higher resilience index?
- Which AGE has a higher resilience index?

2. Histograms of the number of practices adopted (in Excel – “insert” > “histogram” - or in JASP – “descriptives” > “frequency tables” > “plots” > “distribution plots” )

- How many practices are people adopting on average?
- Which practices are adopted the most?

3. Correlation analysis, using Pearson’s  $r$  (in Excel by using the “CORREL” function<sup>13</sup> or in JASP – “regression” > “correlation”)

- Do households with a higher adoption index also have a higher resilience index; i.e. is the intervention’s theory of change correct?

4. Correlation analysis, Chi-squared test<sup>14</sup> (in Excel by using the “CHISQ.TEST” function<sup>15</sup> or in JASP – “frequency” > “contingency tables”)

- Which of all practices adopted are associated with a higher resilience index?

#### EXAMPLES OF ANALYSIS FOR ALL DATASETS FOR EACH QUESTION INDIVIDUALLY:

5. Correlation (Pearson) between adoption score and resilience scores (in Excel by using the “CORREL” function or in JASP – “regression” > “correlation”)



<sup>13</sup> <https://support.microsoft.com/en-us/office/correl-function-995dcef7-0c0a-4bed-a3fb-239d7b68ca92>

<sup>14</sup> As explained above, the Chi-squared test is the most adapted to test correlation between ordinal variables, such as the scores of the RDMT questions.

<sup>15</sup> <https://support.microsoft.com/en-us/office/chisq-test-function-2e8a7861-b14a-4985-aa93-fb88de3f260f>

## CONCLUSIONS

Resilience is a complex concept, and as such, its conceptualization and operationalization need to be underpinned by the wide array of tools available across the IFAD toolkit. The RDMT complements other IFAD resilience-related tools by filling a gap in terms of designing for and monitoring resilience for learning and improved targeting of resilience interventions. The ultimate test of a resilience index is whether it reflects how people have coped with or responded to shocks and stressors that have occurred during project implementation. Evidence of what has actually happened in such circumstances helps to verify assumptions and intervention approaches. In order to produce sound results in terms of impact assessment, the RDMT needs to be used in coordination with IFAD's other results and impact assessment tools (i.e. the COI and the "Corrected" Ability to Recover Index), as detailed in the IFAD Resilience framework.

This HTDN is a living document that is continuously tested and improved through its use in a growing number of projects across all regions. The methodology developed has some limitations, which are being addressed in an ongoing learning process through collaboration across IFAD divisions and project partners. These limitations include:

1 - Triangulating the answers of households and the resulting scorecard adoption and resilience index values with other data sources is a key priority for further development of this methodology. This is currently being explored in a number of ongoing projects. Geographic information system (GIS) and remote sensing analytical tools not only can underpin the risk and vulnerability analysis steps (1 and 2) but also help to monitor the climate shocks and stressors that actually occurred in the project areas where the interventions were promoted during the period covered by the scorecard surveys, thus validating the results. Triangulation between the RDMT resilience index (especially in relation to the climate and environment risk cluster) and GIS data can also provide information critical to the development of an IFAD landscape resilience index.

2 - It may be that not all risks, vulnerabilities and the interventions addressing them are equally important to the targeted households. Thus, there is a need to develop a method for weighting in the computation of the resilience index (i.e. weighting resilience capacities higher when they address impacts from shocks and stressors with greater severity for the targeted households). Solutions to this challenge are currently being explored and will be part of further development of the methodology in the next version of this HTDN.

3 - Finally, the development of a mobile app that includes a taxonomy of resilience-building interventions and facilitates both data collection and analysis is also being explored.

Updated editions of this HTDN will integrate these further developments of the methodology.

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## ANNEX 1 EXAMPLE OF RESILIENCE MATRIX AND SCORECARD FROM THE LAOS PICSA PROJECT

A. Risk Type	B. Specific risks (Step 1)	C. Vulnerability (Step 2)	D. Project interventions (Step 3)	E. Expected results (Step 4)	F. Adoption monitoring questions (Step 5)	H. Results monitoring questions (Step 6)
<p><b>Climate change, degraded natural resources and ecosystem services risks</b></p>	<p>Rising temperatures in the dry season and extreme weather conditions causing flooding, landslides and waterlogging during the wet season, as well as water shortages during dry periods or droughts</p>	<p>Lack of infrastructure and other measures for landslide and flood risk control leading to loss of livestock, crops, physical properties</p>	<p>Construction of climate-proof infrastructure and support for communities in adopting other measures for landslide and flood risk reduction</p>	<p>Households' crops, livestock and physical properties are protected from loss caused by floods and landslides</p>	<p>1.1 Has your community participated in constructing or improving infrastructure and adopting other measures to control flood water and prevent landslides (e.g. retention walls, structures for diversion and storage of flood water, re-vegetation of hillsides and adoption of rules to protect vegetation)?</p> <p><b>Score:</b> No: 0 Yes: 2</p>	<p>1.2 In the past 5 years, has your household experienced losses of its crops, livestock, or physical property due to floods or landslides, and how significant have these losses been?</p> <p><b>Score:</b> Very significant: 0 Significant: 1 Not significant: 2</p>
		<p>Lack of access to water for agricultural production from climate-proof infrastructure in upland and lowland areas, leading to the destruction of infrastructure from extreme weather events and lower productivity and/or loss of production in prolonged and high-temperature dry seasons Inadequate O&amp;M of irrigation water infrastructure, leading to low productivity short life span</p>	<p>Construction of climate-proof water infrastructure in both lowlands &amp; uplands</p> <p>O&amp;M training and capacity building for water users' associations</p>	<p>Households have access to a secure water source for seasonal irrigation for at least 1/4 of their land, preventing crop losses in the dry season</p> <p>Households participate in capacity building in O&amp;M and in effective O&amp;M of the water infrastructure they benefit from</p>	<p>2.1 Do you have access to a secure water source for at least 1/4 of your household's land during the dry season?</p> <p>2.2 Is anyone in your household an active member of a water users' association (e.g. participates in meetings and O&amp;M activities)?</p> <p><b>Score:</b> No: 0 Yes to one question: 1 Yes to both question: 2</p>	<p>2.3 In the past 5 years, has your household experienced crop losses due to lack of access to water, and how large have these losses been?</p> <p><b>Score:</b> Lost more than 40%: 0 Lost 10% - 40%: 1 No significant loss (&lt;10%): 2</p>

Rising temperatures in the dry season and extreme weather conditions causing flooding, landslides and waterlogging during the wet season, as well as water shortages during dry periods or droughts

Limited access to knowledge and adoption of climate-resilience practices in crop farming

Provide extension to farmers in climate-resilience practices

Households are adopting climate-resilience practices in their crop farming, maintaining stability or increasing yields

3.1 Do you have access to quality extension services and technical advice on practices that you can adopt to make your crop production more resilient to climate-related shocks (e.g. higher temperatures in the dry season, more variability in rainfall)?

3.2 Have you adopted at least two climate-resilience practices in crop farming (e.g. shifting to varieties that are more adapted to the new climate conditions, diversification of crops and intercropping to spread risks, mulching, minimum tillage, agroforestry/ tree planting, soil retention structures such as earth bounds, retention walls or terraces)?

Score:  
No: 0  
Yes to one question: 1  
Yes to both questions: 2

3.3 To what extent have you experienced more stable or even higher yields in years with particularly difficult climate conditions such as low rainfall, heavy rains or particularly high temperatures in the dry seasons?

Score:  
No increase in yields and experiences crop losses in years with particularly difficult climate conditions: 0  
Stable yields and only limited losses in years with particularly difficult climate conditions: 1  
Higher yields despite year-to-year variations in climate conditions: 2

<p><b>Sociocultural risks that exclude or limit the participation of women, youth, Indigenous Peoples and/or vulnerable people from economic and livelihood development activities and safety nets</b></p>	<p>Social exclusion and lack of support during crises, especially for ethnic minorities</p>	<p>Weak social networks and participatory community planning process lead to low joint investments in preventive measures that reduce the impact of shocks and crises and weak collective measures to support recovery and enable all households to withstand crises</p>	<p>The project will provide training and capacity building for water users' and producers' groups, as well as participatory village planning of project investments.</p>	<p>Households participate in producers' groups and participatory planning for development projects in their village. Through participation in these community activities, social cohesion is increased and community support during crises is stronger.</p>	<p>4.1 Are you or anyone in your household a member of a producers' group?</p> <p>4.2 Have you or anyone in your household participated in planning for your village's development ?</p> <p>Score: No: 0 Yes to one question: 1 Yes to both questions: 2</p>	<p>4.3 Do you think that participation in producers' groups and in planning for village development is important to guarantee your inclusion in community decision-making and receive support whenever a shock or crisis occurs?</p> <p>Score: Not important: 0 Important: 1 Very important: 2</p>
<p><b>Risks related to insecure market access and market fluctuations, quality off-farm employment and other economic factors</b></p>	<p>Lack of cash to meet immediate needs during a crisis and help absorb the shock</p>	<p>Lack of diversity in income sources and lack of savings and access to emergency relief, with landless households being especially vulnerable due to the lack of quality off-farm employment</p>	<p>Several interventions to diversify and increase income, increase off-farm employment opportunities and make better investment decisions</p>	<p>Households have diverse sources of income, enabling them to accumulate savings and giving them better access to emergency relief programmes. This enables them to better absorb and recover quickly and fully from occasional crises and shocks.</p>	<p>5.1 In your household, do you have enough income from at least two different sources, enabling you to save money for an emergency or sudden difficult situation? Please specify the sources: sale of crops and/or livestock <input type="checkbox"/>; processing or trading <input type="checkbox"/>; employment <input type="checkbox"/>; own business <input type="checkbox"/>; other <input type="checkbox"/> Specify other _____.</p>	<p>5.3 Considering your household's sources of income and access to support, do you think these are sufficient for your household to cope with and recover from an emergency or sudden difficult situation and prevent an impact on your household's access to food and basic needs?</p>



Risks related to insecure market access and fluctuations, quality off-farm employment and other economic factors

5.2 In your household, do you have access to at least two different sources of support to help you in an emergency or sudden difficult situation? Please specify the sources: savings ; assets or livestock you can sell ; village "rice bank" ; emergency credit ; Other  Specify

Score:  
No: 0  
Yes to one question: 1  
Yes to both questions: 2

Score:  
No, not sufficient to cope and support recovery: 0  
Yes, sufficient to cope and support recovery, but could experience short-term impacts on access to food and basic needs: 1  
Yes, sufficient to cope and support full recovery: 2

## ANNEX 2 EXAMPLE OF RESILIENCE MATRIX AND SCORECARD FROM THE EGYPT SAIL PROJECT

A. Risk Type	B. Specific risks (Step 1)	C. Vulnerability (Step 2)	D. Project interventions (Step 3)	E. Expected results (Step 4)	F. Adoption monitoring questions (Step 5)	H. Results monitoring questions (Step 6)
<p><b>Climate change, degraded natural resources and ecosystem services risks</b></p>	<p>Rising temperatures and extreme weather events, mainly heat waves and periods with very low temperatures, are expected to have an adverse impact on agricultural productivity.</p>	<p>Lack of access to early warning systems.</p>	<p>Improvement of early warning systems</p>	<p>Households have access to early warning systems and use them to make decisions about their crops and production activities.</p>	<p>1.1 Does any member of your household receive messages from early warning systems or have access to any of their other services?</p> <p>Score: No: 0 points Yes: 2 points</p>	<p>1.2 Do you use information from early warning systems to make informed decisions about crops and production activities, thus reducing crop losses?</p> <p>Score: No: 0 points Sometimes, crop losses are partially reduced: 1 point Often, as a result, crop losses are substantially reduced: 2 points</p>
		<p>Lack of access to smart agricultural technology adapted to climate change.</p>	<ul style="list-style-type: none"> <li>- Provision of biogas &amp; composting facilities</li> <li>- Provision of demo smart agriculture units (hydroponic, aquaponic and kitchen gardens)</li> </ul>	<p>Households adopt technologies that help them better cope with changing climate conditions in their production and life activities.</p>	<p>2.1 Do you have access to technologies that help you with your production and/or household activities (hydroponic, aquaponic, kitchen gardens, biogas, composting units)?</p> <p>Score: No: 0 points Yes: 2 points</p>	<p>2.2 Since you started using these technologies, has your productivity increased or stabilized?</p> <p>Score: No: 0 Yes, more stable than before: 1 Yes, productivity has increased: 2</p>

**Climate change, degraded natural resources and ecosystem services risks**

<p>Waterlogging and high soil salinity due to high sea level. Soil degradation in Lower Egypt.</p>	<p>Lack of access to machinery (excavators) for building and maintaining canals, ensuring that water reaches end canals for irrigation.</p>	<p>Provision of access to excavators.</p>	<p>Households have access to excavators and use them to ensure that irrigation water reaches end canals, thus providing enough water for production purposes.</p>	<p>Only for households in Lower Egypt</p> <p>3.1 Do you have access to excavators that are used to maintain canals for irrigation?</p> <p>Score: No: 0 points Yes: 2 points</p>	<p>Only for households in Lower Egypt</p> <p>3.2 Do canals maintained with excavators help you store enough water for your production and avoid losses due to salt water?</p> <p>Score: No: 0 points Yes, more water from canals, but still crop losses from high salinity: 1 point Yes, significantly reduced crop losses from salinity: 2 points</p>
<p>Rising temperatures and rainfall variability, leading to fluctuations in Nile water levels.</p>	<p>Shortage of irrigation water resources. Lack of maintenance of mesqua linings and other irrigation systems cause less area to be cultivated. Lack of use of water use efficient technologies.</p>	<p>- Mesqua linings - Training and capacity building in O&amp;M for water users' associations</p>	<p>Households participate in water users' associations, performing efficient O&amp;M of water infrastructure. Mesqua linings are functional and well-maintained. As a result, the % of cultivated area increases.</p>	<p>4.1 Is anyone in your household an active member of a water users' association (e.g. participates in meetings/trainings and O&amp;M activities)? 4.2 Do you or any member of your household perform regular mesqua maintenance?</p> <p>Score: No: 0 points Yes to one question: 1 point Yes to both questions: 2 points</p>	<p>4.3 Has access to water and the % of cultivated land increased as a result of the work of water users' associations and/or mesqua maintenance?</p> <p>Score: No: 0 points Yes, slightly: 1 point Yes, significantly: 2 points</p>

<p><b>Climate change, degraded natural resources and ecosystem services risks</b></p>	<p>Rising temperatures and rainfall variability, leading to fluctuations in Nile water levels.</p>	<p>Shortage of irrigation water resources. Lack of maintenance of mesqua linings and other irrigation systems cause less area to be cultivated. Lack of use of water use efficient technologies.</p>	<p>Promotion of the use of modern irrigation technologies (sprinklers and drip irrigation).</p>	<p>Farmers use modern irrigation technologies. As a result, they use water more efficiently and reduce or prevent crop losses due to lack of irrigation.</p>	<p>5.1 Do you use modern irrigation technologies (sprinklers or drip irrigation)?</p> <p>Score: No: 0 points Yes: 2 points</p>	<p>5.2 Has access to modern irrigation helped you reduce crop losses?</p> <p>Score: No: 0 points Yes, slightly (crop losses are below 20%): 1 point Yes, significantly (crop losses are below 10%): 2 points</p>
<p><b>Risks from weak governance institutions and insecure access to land, water and other natural resources (tenure insecurity)</b></p>	<p>Potential conflicts over the distribution of water in the new lands.</p>	<p>Weak water users' associations with limited roles in defining and implementing governance rules to ensure fair distribution of water.</p>	<p>Strengthening of water users' associations (registration, equipment, opening of bank accounts, seed money, awareness and training in governance principles).</p>	<p>Households participate in water users' associations, are aware of governance principles and are involved in local management and decisions on water governance. Disagreements and needs of individual beneficiaries are smoothly resolved through the water users' association.</p>	<p>6.1 Are you or any member of your household a member of a water users' association that establishes clear rules for the distribution of water?</p> <p>Score: No: 0 points Yes : 2 points</p>	<p>6.2 Are the rules established by the water users' association to manage water resources, as well as complaints mechanisms, effective in securing fair access to water for all water users' association members and preventing conflicts?</p> <p>Score: Not effective, limited access resulting in conflicts: 0 points Effective, fair access to some groups but conflicts still arise: 1 point Very effective, all water users' association members have secure access and there are no conflicts: 2 points</p>

Sociocultural risks that exclude or limit the participation of women, youth, Indigenous Peoples, and/or vulnerable people from economic and livelihood development activities and safety nets

Low level of inclusion of women and young people in the development of their communities, risking that their needs are not taken into account and that communities fail to take advantage of their ideas and experiences.

Low % of women's representation in local associations, leading to their disempowerment.

- Creation of female-only community development associations
- Selection of female rural community leaders and the provision of special training for them
- Mandatory representation of women on the boards of new water users' associations
- Rural women's empowerment through literacy classes
- Health awareness programs
- Giving rural women a greater voice by integrating them in community development associations
- Provision of ID cards for rural women

Empowered role of rural women in their community.

Questions to be addressed to the women of the household:

7.1 Does any woman in your household participate in a community development association or any other community entity?

7.2 Does any woman in your household benefit from one of the following: literacy classes; an ID card; benefits from health awareness training ... ?

Score:  
No: 0 point  
Yes to one question: 1 point  
Yes to both questions: 2 points

Question to be addressed to the women of the household:

7.3 Are women's opinions taken into account in decisions concerning the development of your community?

Score:  
No: 0 points  
Yes, sometimes: 1 point  
Yes, most decisions take women's opinions into account: 2 points

Sociocultural risks that exclude or limit the participation of women, youth, Indigenous Peoples, and/or vulnerable people from economic and livelihood development activities and safety nets

Low level of inclusion of women and young people in the development of their communities, risking that their needs are not taken into account and that communities fail to take advantage of their ideas and experiences.

Women are not involved in income generation and have limited access to economic resources and business training.

Access to grants and training to develop women's businesses.

Empowered women through income-generating activities, thus contributing to the household's income.

Questions to be addressed to the women of the household:

8.1 Did you or any women in your household participate in business development training?

8.2 Have you or any women in your household received a grant to finance and start, as well as manage, your own small business?

Score:  
No: 0  
Yes to one question: 1 point  
Yes to two questions: 2 points

Question to be addressed to the women of the household:

8.3 To what extent did the support help you start a new business and generate income for the household?

Score:  
Did not start a business: 0 points  
Yes, started a business that does not generate significant income, however (less than 1/5 of the household's income): 1 point  
Yes, started a business that provides significant income for the household (1/3 or more of the total household income): 2 points

Sociocultural risks that exclude or limit the participation of women, youth, Indigenous Peoples, and/or vulnerable people from economic and livelihood development activities and safety nets

Low level of inclusion of women and young people in the development of their communities, risking that their needs are not taken into account and that communities fail to take advantage of their ideas and experiences.

Limited training for youth to enable them to enter the job market.

- Provision of vocational training to qualify young people for job opportunities, and the provision of job opportunities in community service units

- Access to rural finance services to start/expand youth businesses

Higher youth employment and income.

Question to be addressed to young people in the household (aged 15-35):

9.1 Have you received support to start your own business or find a job?

Score:

No: 0 points  
Yes: 2 points

Question to be addressed to young people in the household (aged 15-35):

9.2 Based on this support, have you started your own business or found a job that generates income important for your household?

Score:

Did not start a business/did not find a job: 0 points  
Yes, am employed but not generating significant income (less than 1/5 of the household's income): 1 point  
Yes, I have a job that provides important income for the household (1/3 or more of the total household income): 2 points

**Risks related to insecure market access and market fluctuations and to other economic factors**

<p><b>Risks related to insecure market access and market fluctuations and to other economic factors</b></p>	<p>Limited access to markets.</p>	<p>Lack of effective institutional marketing mechanisms. Weak planning and organization of marketing activities and clarification of the role of the marketing associations. This leads to low and fluctuating prices and income for smallholders.</p>	<p>Register marketing associations and build the capacities of their members.</p>	<p>Sustainable marketing entities and services are in place, enabling smallholders to market their products and increase their income.</p>	<p>10.1 Are you or any member of your household benefitting from participation in a marketing association that provides services?</p> <p>Score: No: 0 points Yes: 2 points</p>	<p>10.2 Since the start of your or a household member's participation in a marketing association, have you received better prices for the products you sell?</p> <p>Score: No: 0 points Yes, there are more market opportunities, but prices and the income from the products sold have only moderately improved: 1 point Yes, there are more market opportunities, and prices and the income from products have significantly improved: 2 points</p>
	<p>Lack of alternatives for small-scale producers to sell to traders where their negotiating power is low and prices are low and unpredictable.</p>	<p>Development of contract farming.</p>	<p>Farmers increasingly sell their produce through contract farming with traders/exporters and processing companies and receive better prices.</p>	<p>11.1 Do you sell your products through contract farming?</p> <p>Score: No: 0 points Yes, but 10% or less of production: 1 point Yes, more than 10%: 2 points</p>	<p>11.2 Did contract farming help you obtain stable and higher income from your production?</p> <p>Score: No: 0 points Yes, but not stable: 1 point Yes, income increased and is predictable: 2 points</p>	



**Risks related to insecure market access and fluctuations and to other economic factors**

High post-harvest losses that limit the full potential of opportunities for marketing production and loss of food and income.

Lack of access to training and capacity building to limit post-harvest losses.

Provision of training in post-harvest techniques.

Farmers participate in post-harvest training and manage to limit losses.

12.1 Have you or any of your member of your household attended training in post-harvest management techniques?

Score:

No: 0 points  
Yes: 2 points

12.2 What are your post-harvest losses?

Score:

10% or less of total produce: 2 points  
10%-30% of total produce: 1 point  
More than 30% of total produce: 0 points



Investing in rural people

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