ASPIRES

VULNERABILITY ASSESSMENT HANDBOOK FOR ECONOMIC STRENGTHENING PROJECTS

USAID FROM THE AMERICAN PEOPLE

PEPFAR U.S. President's Emergency Plan for AIDS Relief

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This handbook was developed by Whitney Moret under the Accelerating Strategies for Practical Innovation and Research in Economic Strengthening (ASPIRES) project at FHI 360. More information on ASPIRES can be found at: https://www.fhi360.org/projects/accelerating-strategies-practical-innovation-and-research-economic-strengthening-aspires

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HOW TO USE THIS DOCUMENT

This document is an interactive PDF file. You can navigate by scrolling or clicking on buttons, links and arrows.

To make it easier to access the information most relevant to you, we provide an abbreviated version of the first four sections of the document, which are focused on introductory and background material (see "Quick Start" on the next page). Whenever you'd like more detail on a topic, simply click the ▶▶ icon next to the relevant section title. This will take you to the same section in the full-text document. To return to the abbreviated version, simply click the ◀◀ icon next to the sub-header for the section you wish to view.

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ACRONYMS

ASPIRES	Accelerating Strategies for Practical Innovation in Research and Economic Strengthening
AVSI	Association of Volunteers in International Service
CSI	Coping Strategies Index
DFID	Department for International Development
DHS	Demographic and Health Surveys
ES	Economic Strengthening
FANRPAN	Food, Agriculture and Natural Resources Policy Analysis Network
FANTA	Food and Nutrition Technical Assistance
FAO	Food and Agriculture Organization
FCS	Food Consumption Score
FGD	Focus Group Discussion
FS	Food Security
HEA	Household Economy Approach
HDDS	Household Dietary Diversity Score
HFIAS	Household Food Insecurity Access Scale
HH	Household
HHS	Household Hunger Scale
HLSA	Household Livelihood Security Analysis
HVI	Household Vulnerability Index
HRI	Household Resilience Index
IDI	In-Depth Interview
IFAD	International Fund for Agricultural Development
IHM	Individual Household Method
LIFT	Livelihood and Food Security Technical Assistance
MPAT	Multi-Dimensional Poverty Assessment Tool
NR	Natural Resource
PEPFAR	President's Emergency Plan for AIDS Relief
PLHIV	People Living with HIV
PPI	Progress out of Poverty Index
PPP	Provision, Protection, Promotion Framework
PVA	Participatory Vulnerability Assessment
PVCA	Participatory Vulnerability and Capacity Assessment
PRA	Participatory Rural Appraisal
PWR	Participatory Wealth Ranking
OVC	Orphans and Vulnerable Children
rCSI	Reduced Coping Strategies Index
RRA	Rapid Rural Appraisal
SCORE	Sustainable, COmprehensive REsponses for Vulnerable Children and their Families
SL	Sustainable Livelihoods
UNAIDS	Joint United Nations Programme on HIV and AIDS
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
VA	Vulnerability Assessment
VAT	Vulnerability Assessment Tool
VEP	Vulnerability as Expected Poverty
VEU	Vulnerability as Expected Low Utility

1 INTRODUCTION

This handbook was developed by the ASPIRES project to assist practitioners and M&E specialists to select vulnerability assessment approaches for economic strengthening (ES) interventions, particularly those integrated into the President's Emergency Plan for AIDS Relief (PEPFAR) programs for orphans and vulnerable children (OVC).[1]

Most approaches featured are meant for development projects in relatively stable contexts, rather than emergency relief work. There are many frameworks and toolkits available that were not included in this guide, including those focused on food security, disaster risk management, or emergency relief.

[1] PEPFAR defines OVC as "a child, 0-17 years old, who is either orphaned or made more vulnerable because of HIV/AIDS," where orphanhood refers to losing one or both parents, and other forms of vulnerability include HIV-positive status, living without adult support, living outside of family care, or faces stigma, discrimination, or marginalization (The President's Emergency Plan for AIDS Relief Office of the U.S. Global AIDS Coordinator 2006, p. 2).

2 THEORETICAL BACKGROUND

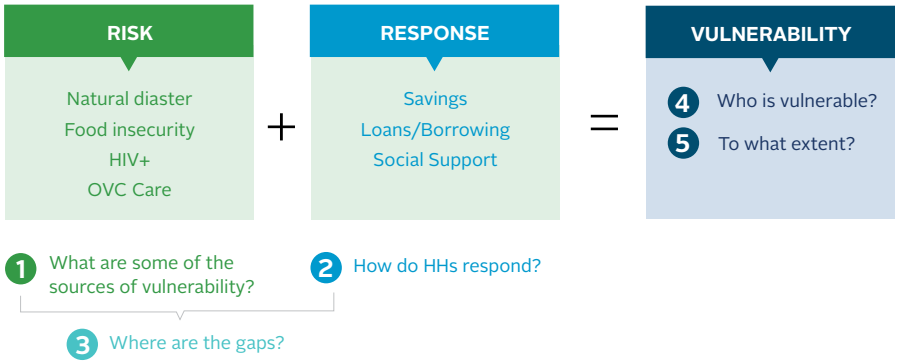
Vulnerability can be understood as a function of risk to shocks and stresses and the capacity of a population to respond to that risk. Put simply, **Risk + Response = Vulnerability**. It is a predictive measure that is useful for programs that seek to enhance beneficiary wellbeing in "dynamic contexts.

In order for vulnerability assessment to be useful, it should define the risks of interest, beginning with the question, "Vulnerable to what?" For OVC programs, the focus is vulnerability to negative HIV-related outcomes related to the wellbeing of children.

A VA should ask these questions:

1. **What is the extent of vulnerability?**
2. **Who is vulnerable?**
3. **What are the sources of vulnerability?**
4. **How do households respond to shocks?**
5. **What gaps exist between risks and risk management mechanisms?**

FIGURE 1. VULNERABILITY EQUATION AND ASSESSMENT QUESTIONS



Sustainable Livelihoods Approaches

Economic strengthening interventions seek to reduce vulnerability to the negative effects of HIV on the household economic status of OVC and their caregivers. Sustainable livelihoods (SL) approaches are a useful lens for understanding how the household economy is affected by HIV. These approaches go beyond measuring poverty to understand the systems in which households make a livelihood, which can shed light on points of intervention.

Chambers and Conway's definition states that:
"A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation..." (1991, p. 6).

SL approaches use in-depth analysis of assets to understand livelihoods. Assets include items such as labor, human capital, housing, household relations, and social capital (Moser, 1998). All of these items contribute to a household's ability to cope with risk. SL has become the dominant approach to livelihood interventions for international development agencies and is referenced in the PEPFAR guidelines for ES (PEPFAR, 2012; Wolfe, 2009).

SL approaches try to understand livelihood strategies and the systems in which they operate. Development agencies use livelihood analysis to inform VAs to better understand how shocks and stresses affect livelihoods over time.

Livelihoods assessments using frameworks like this can be broad in scope, labor-intensive, and generate vast quantities of data, not all of which are directly relevant to project decision-making.

Even when a full livelihoods assessment is not practical, projects seeking to improve the economic status of vulnerable people will still benefit from understanding existing livelihood strategies.

ECONOMIC VULNERABILITY AND THE HIV CONTEXT

The HIV epidemic has produced some specific risks to the economic status and overall wellbeing of OVC that should be considered in VA design for ES interventions.

CAUSAL PATHWAYS: RISK AND RESPONSE

There is a strong link between HIV and poverty. HIV decreases household labor capacity and can lead to negative coping patterns. These coping behaviors can send households into a "spiral" of poverty, which can lead to negative outcomes for children. ES attempts to break this pathway by enhancing household coping capacity, or resilience (ability to recover from shocks).

Poverty can also affect susceptibility to HIV. Poor households are more vulnerable to negative outcomes due to HIV than wealthier households. In addition, poverty and food insecurity can drive high-risk behaviors.

RESPONSES TO RISK

There are many shocks that can result in economic vulnerability. Most VAs for OVC projects assess vulnerability in terms of household capacity to respond to risks in general rather than specific risks.

There are several different types of strategies used to respond to risk: survival, coping, adaptive, and accumulative strategies. At the least severe levels of vulnerability, households focus on managing potential risks. Households use accumulative strategies to increase and diversify assets, and they use adaptive strategies to diversify risks. Examples of risk management strategies include income diversification, savings, and insurance (Chen & Dunn, 1996).
As households become more vulnerable, they are less likely to mitigate risks before they experience shocks, to which they must respond with coping and survival strategies.

Coping involves "temporary adjustments in behaviors related to income generation, eating, and asset utilization in response to shocks or stresses" (Woller, 2011, p. 14). When facing less severe shocks or at lower vulnerability levels, households may employ "consumption coping" strategies focused on reduced consumption (Maxwell, Watkins, Wheeler, & Collins, 2003), with typically reversible effects (Chen and Dunn, 1996). This may escalate to "livelihood coping" given higher levels of vulnerability and more severe shocks (Maxwell et al., 2003). Livelihood coping strategies can have longer-term negative effects on a household. These strategies include liquidating productive assets, breaking social obligations, withdrawing children from school to work, and more extreme responses that can result in destitution (Chen and Dunn 1996). ES interventions seek to prevent the need for these types of coping strategies.

TABLE 1. RISK RESPONSE STRATEGIES

INCREASE VULNERABILITY

	RESPONSE STRATEGIES	DEFINITION	EXAMPLES
MANAGE RISKS (EX ANTE)	Accumulative	Increase and diversification of assets	Insurance, savings, investment in productive activity
	Adaptive	Diversification of risks	Seeking diversified sources of income
RESPOND TO SHOCKS (EX POST)	Coping	Temporary adjustments in behaviors related to income generation, eating, and asset utilization in response to shocks or stress	Reducing spending and food consumption
	Survival	Coping strategies that may have long-term effects on economic wellbeing	Liquidating productive assets, breaking social obligations, withdrawing children from school to work

AN APPROACH TO MEASURING VULNERABILITY FOR ES INTERVENTIONS

This section offers one suggested approach for assessing economic vulnerability for ES interventions as one part of a larger approach for assessing aspects of vulnerability relevant to OVC programs.

Economic vulnerability should be measured separately from, and in addition to, vulnerability to other wellbeing outcomes. For OVC programs, vulnerability assessments will be needed to assess child-level wellbeing as well as household-level economic indicators. We propose using the approach in this section specifically for ES interventions to target vulnerable households, identify economic benchmarks for program success, and match ES interventions to households based on vulnerability status.

Economic vulnerability is complex and there are multiple pathways to economic vulnerability. **There is no single tool or measure that can quantify economic vulnerability** (Burke et al., 2016). The best we can do is assess the aspects of vulnerability most relevant to project objectives.

AN APPROACH TO VA FOR ES

- For identifying ES program beneficiaries or setting benchmarks for program success: Identify asset thresholds for resilience to negative coping patterns
- For matching households to appropriate ES interventions: Define asset levels and coping patterns at different levels of vulnerability using the ES pathway approach (see Annex I and Figure 3)

DEFINING SUCCESS AND TARGETING ES PROGRAM BENEFICIARIES

The first proposed step of this approach to VA for ES is to establish an evidence-based means of determining a household's eligibility to participate in a program or to measure program success.

This framework defines **vulnerability as susceptibility to negative coping**. This assumes that there is a threshold at which a household is susceptible to using the negative coping strategies that can cause a poverty spiral. Households at or below that threshold are considered vulnerable to HIV-related shocks and stresses. Households above that threshold are not considered vulnerable.

If external assistance is required for a household to withstand shocks, there must be a reason why the household cannot accumulate the assets required for it to be resilient on its own. In economics, this phenomenon is known as a **poverty trap** (Carter & Barrett, 2006). A VA can be used to identify the asset thresholds at which a poverty trap occurs. Understanding the asset threshold at which a household becomes resilient, and escapes a poverty trap, allows ES

practitioners to identify the problems their interventions should address and to define benchmarks for success.

Trying to account for all relevant assets usually used in sustainable livelihoods approaches can be costly and challenging. An alternative approach is to consider local norms on acceptable levels of savings, protective, and productive assets. Research can focus on understanding barriers to accumulating savings and investing in productive assets by livelihood group.

This information is most useful for determining program benchmarks for defining and measuring resilience. It can also be used for targeting, although targeting for OVC programs will depend on numerous other criteria related to child wellbeing and context-specific characteristics associated with vulnerability that a program may not be able to change, such as disability, orphanhood, history of abuse, etc.

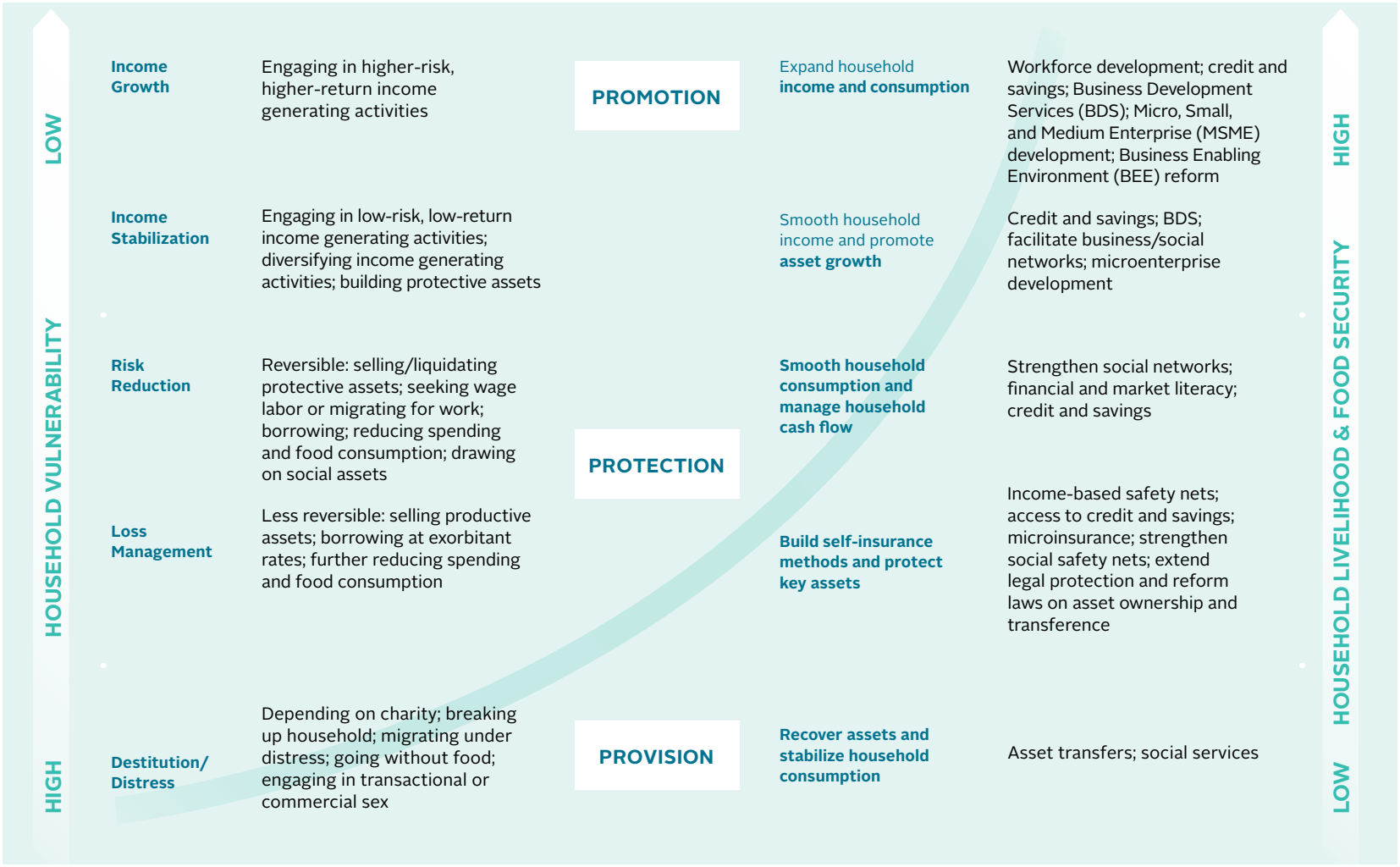
MATCHING HOUSEHOLDS TO ES INTERVENTIONS

VAs can help segment households into different levels of vulnerability to better match them to appropriate ES intervention types.

A common approach to matching ES interventions according to household economic status is found in PEPFAR's economic strengthening pathway approach (PEPFAR, 2012; see Annex I) and LIFT's Provision, Protection, Promotion (PPP) framework (Woller, 2011; see Figure 3 below). Both describe three levels of household economic status and appropriate interventions for each level.

- PEPFAR describes the most vulnerable level as households in "destitution." These households require asset transfers to meet their basic needs.
- Households "struggling to make ends meet" can meet basic survival needs, but their consumption patterns are volatile, and they require interventions to help them protect their assets and expand their income. Relevant interventions include savings and insurance.
- The least vulnerable category, households "prepared to grow," have built up their protective assets but require assistance to invest in growing their productive assets. Relevant interventions include value chain and access to finance interventions. The below graphic describes LIFT's approach to this framework, with corresponding categories.

FIGURE 1. LIFT'S PPP FRAMEWORK



Source: Woller, 2011 p. 33

3 ASSESSMENT DESIGN

WHAT TO EXPECT WHEN CONDUCTING A VA

The main phases of an assessment are design, preparation, data collection, and analysis and reporting (Kureya, 2013).

DESIGN

When designing an assessment, the project teams should define the key questions that the study should answer. These should serve a purpose for decision-making.

Stakeholders, including funders, project partner staff, and beneficiaries, can help define and determine the relevance of these questions.

PREPARATION

Early on, project staff will need to do some sort of situation analysis to obtain as much information as possible on the project context. This will help refine the project scope, and it will help the project team determine which questions can be answered using existing data, and which will require additional primary research. This may include a formal situation analysis or a needs assessment, including a review of secondary data to better understand the vulnerability context.

Next, project staff will need to select the research methods to answer the questions they have identified, including how the data they collect should be analyzed. Methods will be constrained by budget, available sample size, time, and contextual appropriateness. Researchers will need to define the study area and sample size, and develop a sampling frame if one is not already available. Once a study protocol is developed, it will need to be approved by an ethics committee, according to local and donor regulations. If study participants speak a different language than researchers, continual translation of tools will be required while they are under development. Data collectors should be hired and trained, and systems will need to be developed for data capture and management.

PAPER OR MOBILE DATA COLLECTION?

Mobile data collection has significant advantages over paper: it can make data collection easier, faster, and more accurate. The data entry process can be avoided, and data can immediately be transmitted from mobile devices to an electronic database during data collection, allowing researchers to identify and address potential errors and begin to identify trends.

Mobile devices require financial investment and may present a learning curve to data collectors. Projects should weigh the costs and benefits to choose which approach for data collection is best.

For more, see the Paper-to-Mobile Data Collection Manual.

Once methods are selected and tools are developed, they will need to be tested. Next, the tools developed should be validated and quantitative tools must assign weights to different domains and indicators. More information can be found about weighting and validation in the "Research Methods" section of this document.

COLLECTING DATA

The research team will need to make sure that there is ongoing monitoring to ensure compliance with the study protocol. If the protocol is violated, the violation should be reported to the appropriate ethics committees and corrected.

REPORTING AND ANALYSIS

Once the data is collected, it will need to be "cleaned," or checked for any potential errors, which must be corrected. Finally, the research team will analyze and report on the data.

WHO WILL COLLECT THE DATA?

Some projects engage service-providers or case managers to collect data rather than professional enumerators. This can be especially beneficial when collecting sensitive information that requires an existing relationship and trust with the respondent.

However, data collectors must be properly trained and monitored to ensure reliable results.

DESIGNING YOUR VA FOR PURPOSE

VAs have several functions for development projects. They can be used for project design, M&E, targeting, and community mobilization and buy-in.

PROJECT DESIGN, STRATEGY, POLICY, AND COMMUNITY MOBILIZATION

VAs can be a very valuable way to explore the causes of vulnerability and identify solutions. Large-scale assessments may be used by donors or organizations with an ongoing presence in an area who wish to develop long-term strategies. Large-scale research studies may also be appropriate for influencing policy. For individual projects constrained by donor timelines, a more focused VA is more practical. This may involve situation analysis using rapid appraisals[2] to collect key information quickly. Assessments for project design aimed at mobilizing community action typically use participatory methods. These assessments are labor-intensive and are focused on encouraging action rather than collecting large-scale, generalizable research data.

MONITORING AND EVALUATION

VAs aimed at collecting M&E data may or may not be the same as those informing project design. These VAs will seek to collect baseline data about what the project seeks to influence to compare to key indicators collected over the life of the project for monitoring purposes, and eventually to compare against endline data from the same group to measure impact. Ideally, impact will be measured using a control group.

TARGETING

Targeting, or identifying participants for program enrollment, is a key feature of ensuring the efficiency of interventions.

Household targeting requires household-level data to identify households at different levels of vulnerability, and prioritize them according to need. This can be done using quantitative surveys or participatory ranking exercises. A common method starts with geographical targeting of poor villages, followed by wealth ranking exercises to identify vulnerable households, followed by verification that the households are indeed poor or vulnerable, using tools like the PPI (Poverty Outreach Working Group, 2011). OVC programs usually target beneficiaries based on OVC status (categorical targeting) as identified by referrals from government programs or through community-based selection methods. Referred participants are then verified with OVC-specific targeting criteria. These criteria may be derived from a VA. From those referred, further targeting for enrollment in specific services can be done using quantitative assessment tools or individualized needs assessments.

UNDERSTANDING VULNERABILITY: MORE THAN ONE TOOL

No single tool can capture the complexity of economic vulnerability. Vulnerability assessments must seek to capture what is most relevant to project purposes.

[2] Rapid appraisal is defined as "an approach that draws on multiple evaluation methods and techniques to quickly, yet systematically, collect data when time in the field is limited" (Vondal, 2010, p. 1).

It is important to note that targeting will often require different tools than M&E. Prioritizing households for enrollment usually involves screening based on vulnerability factors that cannot be changed by an intervention, where M&E tools seek to measure changes caused by an intervention.

MATCHING HOUSEHOLDS TO INTERVENTIONS

Matching interventions to households based on vulnerability levels may be a different process than targeting households for project participation. Intervention matching may happen using a household needs assessment conducted by a case manager who is familiar with a household's needs and capacities. For interventions where this type of approach is too costly, matching may be based on rapid or in-depth survey tools designed to match needs to intervention approaches.

TABLE 2. SUMMARY OF VA FUNCTIONS

PURPOSE	OUTPUTS	LEVEL OF ANALYSIS	METHODS USED	OTHER CONSIDERATIONS
Project design, strategic planning, policy	• Socially-defined baseline of wellbeing • Risks and response mechanisms over time for different groups • Characteristics of vulnerable households • Depth and breadth of vulnerability in a given context • Livelihood strategies and context	Population, community, or household level	• Qualitative and participatory methods to understand change over time: life histories, FGDs, key informant interviews, etc. • Rapid appraisals for quick situation analysis • Secondary data analysis • Quantitative surveys	• Economic interventions should seek to understand existing livelihood strategies for different livelihood groups • Assets needed for wellbeing will depend on livelihood type
Community mobilization and buy-in	• Community-identified risk and resilience factors • Actions plans	Community level	Emphasis on participatory activities for community-driven projects	• Project scope must be flexible, iteratively defined by community • Not for "extractive" or large-scale research • Designed to prompt action
M&E	• Progress compared against baseline and goals • Impact evaluated	Individual, Household, community, or population level	• Quantitative methods for reporting clarity • Qualitative methods to understand why changes occur	• More rigorous methods, including control group, recommended for measuring impact
Household targeting to beneficiaries	• Vulnerability status quantified or ranked • Beneficiaries prioritized for project inclusion based on vulnerability status	Household level	• Quantitative indices • Participatory ranking	• Must be tested according to project threshold for inclusion/exclusion error • Alternative methods: geographical or categorical
Matching interventions to beneficiaries	• Vulnerability levels quantified and matched to intervention types	Household or individual level	• Quantitative indices • Needs assessments	• Can use survey tool and/or more subjective case management approaches

QUICK RECOMMENDATIONS FOR OVC IMPLEMENTERS

NGOs implementing OVC programs need to assess household and child-level vulnerability for several program functions. Below is a list of common methods with some recommendations for how to improve them.

TABLE 3. QUICK RECOMMENDATIONS FOR OVC IMPLEMENTERS

FUNCTION	TYPICAL METHODS	RECOMMENDATIONS
Design	• Key informant interviews • Secondary data review	• Livelihood analysis

Targeting	• Identification
	  • Referrals from government entities and NGOs
	  • Participatory exercises
	• Verification and enrollment
	  • Screening tools or indices to identify
		• Separate targeting and M&E tools to ensure that
		  • M&E tools capture changes due to intervention, and
		  • Targeting tools capture household with characteristics most relevant to vulnerability, even if the project cannot

M&E	• Quantitative assessment tools, often used in conjunction with case management	• Ensure that cut-offs between household economic classifications are empirically based
Graduation	• Quantitative assessment tools	• Ensure that threshold for graduation is empirically based

CRITERIA FOR SELECTING METHODS

Project teams may wish to develop their own tools to design a VA, or they may wish to select from existing tools or toolkits and adapt them to the project context. To ensure that the VA is useful to project decision-making, methods selection should be driven by a set of practical criteria such as the below:

TABLE 4. METHODS SELECTION CRITERIA

FUNCTION	TYPICAL METHODS
Resources Available	Costs are a big factor in assessment design: money, time, and human resources are all variables in methods selection. Large-scale, statistically-generalizable assessments may not be appropriate to smaller projects, but a long-term presence may necessitate more in-depth assessment and merit higher investment.
Frequency of Data Collection	Some methods will require multiple data collection points, others only one.
Data Requirements	Some methods require the use of existing data, such as national household survey datasets.
Sensitivity and Specificity	Targeting efforts will depend on the project's tolerance for inclusion and exclusion errors.[3] This can be informed by a simple cost-benefit analysis to quantify the cost of errors.[4]
Replicability	Replicability is the ability to re-create the study and arrive at the same results. Using objective, replicable methods is an important part of scientific validity in research. For development projects, this is especially relevant to ensure fair targeting and for assessments comparing vulnerability in different locations.
Other considerations	Host government definitions and standards will help shape the assessment design to ensure coordination with local stakeholders.

[3] Sensitivity refers to the ability of a tool to identify program participants who meet the enrollment criteria, Specificity refers to its ability to avoid including those who do not meet such criteria. A sensitive tool will have low errors of exclusion, meaning that it can target most eligible program participants. A specific tool will have low errors of inclusion, meaning that few households who do not meet the enrollment criteria will receive program benefits.

[4] See Schreiner 2013, p. 46

4 COMMON RESEARCH METHODS

Vulnerability is socially-defined and context-specific, so there is no one-size-fits-all approach to VA. It is likely that several data collection methods will be required to understand vulnerability dynamics based on project goals.

QUANTITATIVE METHODS

Quantitative research seeks to explain "phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics)" (Creswell, 1994). Quantitative research methods are characterized by a focus on collection of numerical data. Quantitative methods often aim to produce generalizable findings through the construction of representative samples, in order to draw inferences about a wider population using statistical analysis (Iversen, 2004).

RESEARCH ETHICS

To protect the participants in a research study, it is important that:

- The study receives approval from its relevant research ethics committee,
- Data collectors are trained in research ethics, and
- Each participant provides informed consent prior to participating.

SECONDARY DATA

The World Bank (n.d.) recommends examining secondary (existing) data to inform OVC project design. Potential sources include: State of the World's Children Statistics Annex; the Demographic and Health Surveys' (DHS) Stat Compiler on Macro International's website; or the Children on the Brink report from UNICEF/UNAIDS/USAID. They also recommend consulting with a country's national statistics agency and UNICEF to identify additional data resources, including UNICEF's occasional country-specific reports on the status of women and children.

DESCRIPTIVE STATISTICS

Secondary data may need to be supplemented with primary data collection. Conducting a survey can generate descriptive statistics on key demographic and vulnerability indicators to inform project design.

SCALES AND INDEXES

VAs often use household survey data to create a scale or index.

VALIDATION

Validation is the process of ensuring that your measurement tool captures the concept that you wish to measure. Means of validation include comparison to existing validated tools or other external criterion that should align with the concept you are measuring. It is very important to validate your tools!

What is it?

A scale or index is a measure designed to capture complex concepts by combining different indicators into one composite score (Babbie, 2009, p. 198).

How do indicators generate a score?

The main ways of assigning weights to indicators include "using expert judgment; applying the arbitrary choice of equal weights; and using statistical methods such as factor analysis or principal component analysis" (Gebrehiwot & van der Veen, 2013, p. 56). Participatory methods can also be used to assign weights.

Where scores have implications for matching interventions to households, such as PEPFAR's ES pathway categories, it is important for the categories to be empirically validated. This requires additional qualitative research to ensure that the scores link to vulnerability categories in a valid way.

Why use an index or scale?

Scales and indices are attractive because they generate simple, numerical scores. These scores can be used to determine cut-offs for program enrollment or to track progress for M&E purposes. However, these scores are not always

useful for decision-making. Vulnerability is complex, so a vulnerability score may not prompt specific intervention types that could better be captured by disaggregated indicators.

QUALITATIVE RESEARCH

Qualitative research uses non-numerical data, like text, narrative, and direct observation, to explore complex concepts that are not easily measured quantitatively (Namey & Trotter, 2015, p. 443). Qualitative research is sometimes used as formative research to help construct quantitative measures. Other times, it is used to better understand quantitative results. Because qualitative research can be open-ended, it allows researchers to ask "why?" better than quantitative research.

In vulnerability analysis, qualitative research is important for obtaining information on shocks faced by potential beneficiary households and the assets they use to confront those shocks. It can also be used to understand local perceptions of vulnerability and to develop context-specific vulnerability categories and cut-off points.

RESEARCH METHODS RESOURCES

- Chronic Poverty Research Centre Methods Toolbox
- World Bank Social Analysis Tools and Methods
- Rapid Rural Appraisal (RRA) and Participatory Rural Appraisal (PRA): A Toolkit for CRS Field Workers and Partners

INTERVIEWS AND FOCUS GROUPS

In-depth interviews (IDIs) and focus group discussions (FGDs) are some of the most common data collection methods used for development projects. IDIs look and feel like conversations between the researcher and an informant, featuring a series of open-ended questions and probes to obtain the desired information (Namey and Trotter, 2015). IDIs allow researchers to get detailed information from informants selected for having special knowledge about a topic. FGDs, on the other hand, are moderated group discussions with 8-12 participants. FGDs are meant to be an efficient way to collect information from a group, particularly on topics that relate to shared norms or are public in nature (p. 456).

CASE STUDIES

The case study is a research method that allows a researcher to investigate, in depth, a specific case illustrating a phenomenon of interest (Yin, 2013, p. 5). It is particularly useful for determining the "how" and "why" behind complex social phenomena. Two case study methods relevant for VA are life histories and deviant case analyses.

Life history research, also known as oral history or oral testimony, is "a systematic account of events, delivered via the spoken word to a listening audience"(Palmer, 2010, p. 527). For vulnerability assessment, life history can be used to understand changes in an individual's wellbeing over time, and how these

changes link to events in the larger context. It can provide insight into the nature of shocks and response strategies to better understand the causal pathways of vulnerability in the project context.

A typical case study is selected to represent an average household, and "deviant" cases are used to explore unusual cases. A deviant case study can be used to explain why otherwise similar households might have very different outcomes, shedding light on what makes a household vulnerable or resilient.

PARTICIPATORY RURAL APPRAISAL AND RANKING EXERCISES

Participatory rural appraisal (PRA) refers to a set of bottom-up research methods designed to engage directly with beneficiaries to better understand their perspective and understanding of local problems. Participatory methods can be used to mobilize community action, identify households for targeting, or as a form of exploratory research to inform the development of quantitative vulnerability assessment tools. PRA is generally conducted at the community level.

Wealth ranking is a common PRA method used to target beneficiaries for anti-poverty projects. Participatory wealth ranking (PWR) can help build community buy-in around targeting decisions and gather information on local perceptions of poverty and wellbeing. Although PWR was originally designed to assess relative levels of poverty, the same methods can be used to explore broader concepts of wellbeing, including vulnerability (VENRO, 2011).

PRA methods are not useful in all contexts. They were designed for rural environments where neighbors are familiar with one another and are bound by high levels of trust. PRA is not appropriate to urban areas where neighbors do not know each other, areas where trust is low (such as conflict-settings), or in situations where the process is likely to be taken over by elites.

1 INTRODUCTION

The President's Emergency Plan for AIDS Relief (PEPFAR) programming for orphans and vulnerable children (OVC)[1] seeks to reduce the vulnerability of this population to the effects of the HIV epidemic, including impacts on health, nutrition, and psychosocial and economic wellbeing. Understanding vulnerability is key to program design, targeting, and M&E. Development organizations and researchers have developed a number of tools and frameworks for assessing vulnerability, with definitions and measurement approaches varying by disciplinary lens and the level of effort required to utilize them. To assist practitioners and M&E specialists in selecting between existing approaches, the ASPIRES project offers this resource guide. Although many of the tools in this guide are relevant to other types of programming, its focus is to inform economic strengthening (ES) interventions, particularly those integrated into OVC programs.

This guide starts out with a description of the theoretical foundations informing vulnerability assessment (VA) approaches relevant to ES and OVC interventions. It goes on to describe the key components of a vulnerability assessment and provides some guidelines for selecting methods appropriate to project needs, including identifying which data are needed for decision-making purposes, and conforming assessment approaches to time and budget constraints. Next, the guide outlines some data collection methods and indicators commonly included in vulnerability assessments. Finally, it reviews a series of individual VA tools and frameworks published by development agencies based on key criteria for decision-making.

To aid in the process of selecting methods, each tool is presented with a summary of characteristics relevant to project needs. These include:

- Resources available and frequency of data collection
- Data requirements and relevance to decision-making
- Sensitivity and specificity
- Replicability
- Other considerations

Tools included in this guide were selected for compatibility with the aims of OVC interventions, particularly those involving ES. There is a focus on socioeconomic domains of interest, indicators relevant to contexts of high HIV prevalence, and household-level indicators for targeting. Most approaches featured are meant for development projects in relatively stable contexts, rather than emergency relief work. There are many frameworks and toolkits available that were not included in this guide, including those focused on food security, disaster risk management, or emergency relief.

[1] PEPFAR defines OVC as "a child, 0-17 years old, who is either orphaned or made more vulnerable because of HIV/AIDS," where orphanhood refers to losing one or both parents, and other forms of vulnerability include HIV-positive status, living without adult support, living outside of family care, or faces stigma, discrimination, or marginalization (The President's Emergency Plan for AIDS Relief Office of the U.S. Global AIDS Coordinator 2006, p. 2).

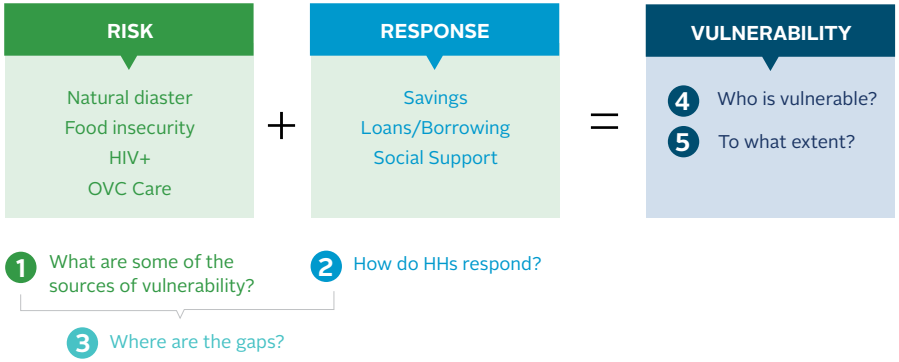
2 THEORETICAL BACKGROUND

Vulnerability can be understood as a function of risk to shocks and stresses and the capacity of a population to respond to that risk. Put simply, **Risk + Response = Vulnerability**. It is a predictive measure useful for programs seeking to enhance beneficiary wellbeing in dynamic contexts. In order for vulnerability assessment to be useful, it should define the risks of interest, beginning with the question, "Vulnerable to what?" For OVC programs, the focus is vulnerability to negative HIV-related outcomes related to the wellbeing of children. Part of the vulnerability assessment process may be to define the context-specific risks associated with these outcomes.

Hoddinott and Quisumbing (2003) pose five questions that a VA should ultimately answer (p. 46):

1. **What is the extent of vulnerability?**
2. **Who is vulnerable?**
3. **What are the sources of vulnerability?**
4. **How do households respond to shocks?**
5. **What gaps exist between risks and risk management mechanisms?**

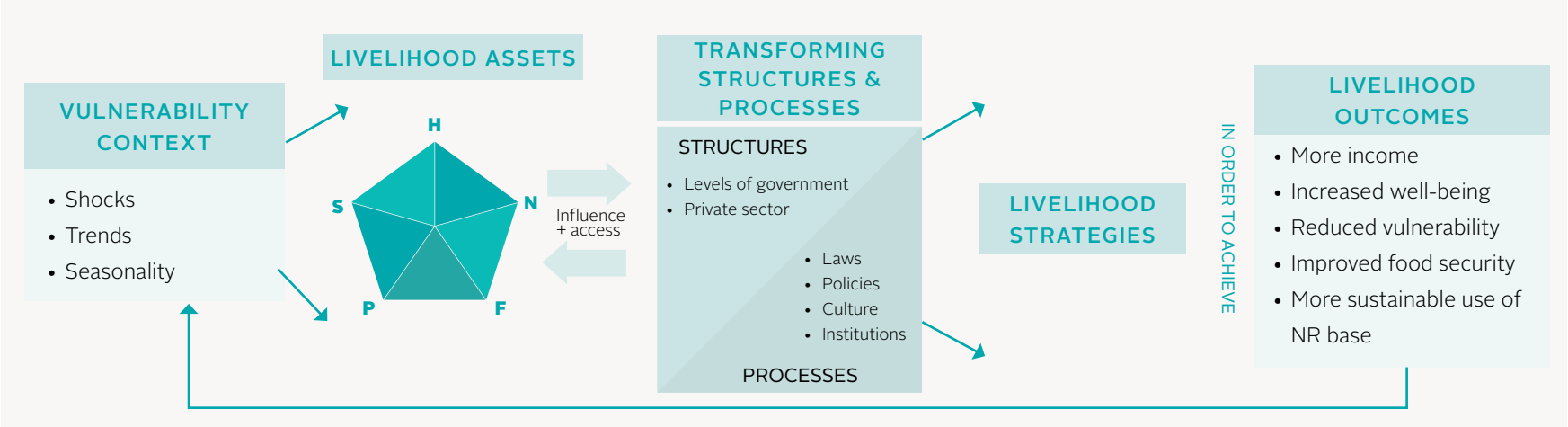
FIGURE 1. VULNERABILITY EQUATION AND ASSESSMENT QUESTIONS



Economic strengthening interventions seek to mitigate vulnerability to the negative effects of HIV on the household economic status of OVC and their caregivers. Sustainable livelihoods (SL) approaches are a useful lens for understanding how the household economy is affected by HIV. These approaches go beyond poverty measurement to understand the systems in which households make a livelihood, which can shed light on points of intervention.

Chambers and Conway's definition states that:
"A livelihood comprises the capabilities, assets (stores, resources, claims and access) and activities required for a means of living: a livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation..." *(1991, p. 6).*

FIGURE 2. DFID'S SUSTAINABLE LIVELIHOODS FRAMEWORK



Source: Carney et al., 1999, p. 9

SL approaches use in-depth analysis of assets to understand livelihoods. Assets include items such as labor, human capital, housing, household relations, and social capital (Moser, 1998). All of these items contribute to a household's means of coping with risk. SL has become the dominant approach to livelihood interventions for international development agencies and is referenced in the PEPFAR guidelines for ES (PEPFAR, 2012; Wolfe, 2009).

SL approaches are rooted in an analysis of livelihood strategies and the systems in which they operate, including historical and institutional context, and how livelihoods are affected by access to assets (Scoones, 1998; Valdés-Rodríguez & Pérez-Vázquez, 2011). Development agencies use livelihood analysis to inform VAs to better understand how shocks and stresses affect livelihoods over time, often with reference to the seminal framework used by DFID, pictured above, including analysis of: the vulnerability context, livelihood assets, institutions, livelihood strategies, livelihood outcomes (Carney et al. 1999; Stewart, Carloni & Crowley, 2005).

Livelihoods assessments using frameworks like this can be broad in scope, labor-intensive, and generate vast quantities of data, not all of which are directly relevant to project decision-making. Even when a full livelihoods assessment is not practical, projects seeking to improve the economic status of vulnerable people will still benefit from understanding existing livelihood strategies. According to the best practices for livelihoods research, researchers should seek to understand various livelihood strategies employed within a population, how they change over a specific timeframe, link the micro to the macro (Murray, 2001) and explore how they link to capital assets (Scoones, 1998). This analysis should be sensitive to seasonality, which affects livelihood patterns. More detailed guidance on livelihood analysis is provided in the comprehensive frameworks presented later in this guide. For now, it is important to appreciate that livelihood dynamics are key to understanding economic vulnerability.

ECONOMIC VULNERABILITY AND THE HIV CONTEXT

The HIV epidemic has produced some specific risks to the economic status and overall wellbeing of OVC that should be considered in VA design for ES interventions. Compared with non-vulnerable children, OVC are more likely to experience:

- Early mortality;
- Insufficient access to basic needs, such as nutrition, clothing, health care, and psychosocial support;
- Low academic attainment;
- Intra-household neglect;
- Family and community abuse and mistreatment;
- Economic and sexual exploitation;
- Burden of heading a household;
- Lack of parental care;
- (further) Impoverishment due to loss of inheritance (World Bank, n.d.-a).

OVC are also more likely to engage in behavior that puts them at risk for HIV, particularly adolescent girls (Operario et al. 2011, as cited in PEPFAR 2012, p. 9).

CAUSAL PATHWAYS: RISK AND RESPONSE

Since the majority of OVC live in family care, PEPFAR encourages intervention at the household level. As such, this review considers vulnerability at the household level, where HIV-affectedness and economic status have mutually reinforcing effects. The causal pathway linking HIV to economic decline is well-documented. HIV decreases household labor capacity and can lead to negative coping patterns that can send households into a "spiral" of deteriorating economic status, which can lead to some of the outcomes for children described above. ES attempts to break this pathway by enhancing household coping capacity, or resilience (ability to recover from shocks).

The reverse of this causal pathway is the effect of poverty on susceptibility to HIV. Although there is no linear relationship between poverty and HIV status (Kim, Pronyk, Barnett, & Watts, 2008; Xiong, 2012), research shows that poor households are more vulnerable to negative outcomes due to HIV than wealthier households, including being driven to destitution due to costs associated with the illness, such as costs of care, funerals, and taking on extra dependents when their caretakers die (UNAIDS, 2006). In addition poverty and food insecurity can drive high-risk behaviors such as early sexual debut, having multiple sexual partners, and commercial sex work (Hargreaves et al., 2007; Oyefara, 2007; Weiser et al., 2007).

RESPONSES TO RISK

The effects of HIV are one of many shocks that can result in economic vulnerability for OVC. Rather than attempting to measure the potential effects of specific shocks, most VAs for OVC projects assess vulnerability in terms of household capacity to respond to risks in general. In order of severity of risk, Masanjala (2007) identifies several types of response strategies: survival, coping, adaptive, and accumulative strategies. At the least severe levels of vulnerability, households focus on managing potential risks. Households use accumulative strategies to increase and diversify assets, and they use adaptive strategies to diversify risks. Examples of risk management strategies include income diversification, savings, and insurance (Chen & Dunn, 1996). As households become more vulnerable, they are less likely to mitigate risks before they experience shocks, to which they must respond with coping and survival strategies.

Coping involves "temporary adjustments in behaviors related to income generation, eating, and asset utilization in response to shocks or stresses" (Woller, 2011, p. 14). When facing less severe shocks or at lower vulnerability

levels, households may employ "consumption coping" strategies focused on reduced consumption (Maxwell, Watkins, Wheeler, & Collins, 2003), with typically reversible effects (Chen and Dunn, 1996). This may escalate to "livelihood coping" given higher levels of vulnerability and more severe shocks (Maxwell et al., 2003). Livelihood coping strategies can have longer-term negative effects on a household. These strategies include liquidating productive assets, breaking social obligations, withdrawing children from school to work, and more extreme responses that can result in destitution (Chen and Dunn 1996).

TABLE 1. RISK RESPONSE STRATEGIES

INCREASE VULNERABILITY

	RESPONSE STRATEGIES	DEFINITION	EXAMPLES
MANAGE RISKS (EX ANTE)	Accumulative	Increase and diversification of assets	Insurance, savings, investment in productive activity
	Adaptive	Diversification of risks	Seeking diversified sources of income
RESPOND TO SHOCKS (EX POST)	Coping	Temporary adjustments in behaviors related to income generation, eating, and asset utilization in response to shocks or stress	Reducing spending and food consumption
	Survival	Coping strategies that may have long-term effects on economic wellbeing	Liquidating productive assets, breaking social obligations, withdrawing children from school to work

AN APPROACH TO MEASURING VULNERABILITY FOR ES INTERVENTIONS

Well-designed OVC interventions are comprehensive in order to address the complex causal pathways of vulnerability and intersecting needs of vulnerable children, and VAs should address the risks and response factors associated with these pathways. Although there are many resources available for assessing child wellbeing, ASPIRES was unable to identify a framework for assessing vulnerability specifically for ES interventions. This section offers a suggested approach for assessing economic vulnerability for ES interventions as one part of a larger approach for assessing aspects of vulnerability relevant to OVC programs.

AN APPROACH TO VA FOR ES

- For identifying ES program beneficiaries or setting benchmarks for program success: Identify asset thresholds for resilience to negative coping patterns
- For matching households to appropriate ES interventions: Define asset levels and coping patterns at different levels of vulnerability using the ES pathway approach (see Annex I and Figure 3)

Since there are many overlapping vulnerabilities faced by OVC households and other vulnerable populations, we recommend that a VA for ES interventions focus specifically on economic status as one outcome area for OVC programs. In other words, **economic vulnerability should be measured separately from, and in addition to, vulnerability to other wellbeing outcomes**. For OVC programs, vulnerability assessments will be needed to assess child-level wellbeing as well as household-level economic indicators. We propose using the approach in this section specifically for ES interventions to target vulnerable households, identify economic benchmarks for program success, and match ES interventions to households based on vulnerability status.

Finally, economic vulnerability is complex and there are multiple pathways to economic vulnerability. There is no single tool or measure that can quantify economic vulnerability (Burke et al., 2016). The best we can do is assess the aspects of vulnerability most relevant to project objectives.

DEFINING SUCCESS AND TARGETING ES PROGRAM BENEFICIARIES

The first proposed step of this approach to VA for ES is to establish an empirical basis for assessing either eligibility for participation or a measure of program success. The goal of ES is to enhance household economic resilience to shocks in order to avoid erosive coping strategies that can result in negative outcomes for OVC or other populations of interest. Therefore, there is a need to measure **vulnerability as susceptibility to negative coping**. Specifically, if there is a threshold at which a household is susceptible to using negative coping strategies, households at or below that threshold must be considered vulnerable in the face of HIV-related shocks and stresses, while households above that threshold do not need to use these kinds of strategies, and are considered not vulnerable.

Of course, there are a range of HIV-related shocks and stresses, some of which are more predictable, such as the shock of death in a household with PLHIV, others less so, such as in a household that may be included in a target population simply by virtue of living in an area with high HIV prevalence. A VA may include a more precise measure by factoring in the likelihood and magnitude of a specific kind of shock, or it may focus on the assets available that contribute to resilience to a range of likely shocks.

Definitions of resilience are as broad-ranging as those for vulnerability. A practical application of the concept is found in Barrett and Constas' definition of "development resilience" (2014). Many development agencies refer to resilience as the capacity for a household to restabilize after a shock. This may contradict project goals, such as poverty alleviation, when stabilization merely means a return to chronic poverty. As an alternative, development resilience "is the capacity over time of a person, household or other aggregate unit to avoid poverty in the face of various stressors and in the wake of myriad shocks. If and only if that capacity is and remains high over time, then the unit is resilient" (Barrett and Constas 2014, p. 14626). Although ES strategies do not always result in households escaping poverty (Xiong, 2012), there is evidence that they can promote resilience by enhancing social capital, access to savings and credit, and other socioeconomic benefits (Markel, Gettliffe, & Simon, forthcoming). To assess vulnerability for targeting program beneficiaries, then, we must understand the point at which a household is resilient.

If external assistance is required for a household to withstand shocks, there must be a reason why the household cannot accumulate the assets required for it to be resilient on its own. In economics, this phenomenon is known as a poverty trap (Carter & Barrett, 2006). A VA can be used to identify the asset thresholds at which a **poverty trap** occurs, or the point where a household no longer has sufficient assets to protect against detrimental coping strategies in the face of shocks. Understanding the asset threshold at which a household becomes resilient, and escapes a poverty trap, allows ES practitioners to identify the problems their interventions should address and to define benchmarks for success.

Assets can take many forms, as the sustainable livelihoods approach demonstrates. Trying to catalogue all relevant assets of the five asset capitals usually used in sustainable livelihoods approaches, however, can be a costly and challenging endeavor, although it may yield rich data for program design. An alternative approach is to consider local norms on acceptable levels of savings, protective, and productive assets, and to structure research around better understanding barriers to accumulating savings and investing in productive assets, noting that these will vary by livelihood group. For example, focus groups can be used to identify key assets in each category, and how much of each type of asset is needed to withstand different kinds of HIV-related shocks. More information on the threshold for a poverty trap can be obtained by interviewing households that have either faced deteriorating economic circumstances due

to HIV-related shocks or who have overcome these shocks. The information obtained can help identify a threshold separating households vulnerable to negative coping strategies from those who are not.

This information is most useful for determining program benchmarks for defining and measuring resilience. It can also be used for targeting, although targeting for OVC programs will depend on numerous other criteria related to child wellbeing and context-specific characteristics associated with vulnerability that a program may not be able to change, such as disability, orphanhood, history of abuse, etc.

MATCHING HOUSEHOLDS TO ES INTERVENTIONS

Defining an asset threshold related to detrimental coping strategies can help ES practitioners identify one level of vulnerability. However, there is a range of ES interventions available, and some require a higher capacity for withstanding risk than others. VAs can help segment households into different levels of vulnerability to better match them to appropriate ES intervention types.

A common approach to matching and sequencing ES interventions according to household economic status is outlined in PEPFAR's economic strengthening pathway approach (PEPFAR, 2012; see Annex I) and further elaborated in LIFT's Provision, Protection, Promotion (PPP) framework (Woller, 2011; see Figure 3 below). Both describe three levels of household economic status and appropriate interventions for each level. PEPFAR describes the most vulnerable level as households in "destitution." These households require asset transfers to meet their basic needs. Households "struggling to make ends meet" can meet basic survival needs, but their consumption patterns are volatile, and they require interventions to help them protect their assets and expand their income. Relevant interventions include savings and insurance. The least vulnerable category, households "prepared to grow," have built up their protective assets but require assistance to invest in growing their productive assets. Relevant interventions include value chain and access to finance interventions.
The below graphic describes LIFT's approach to this framework, with corresponding categories.

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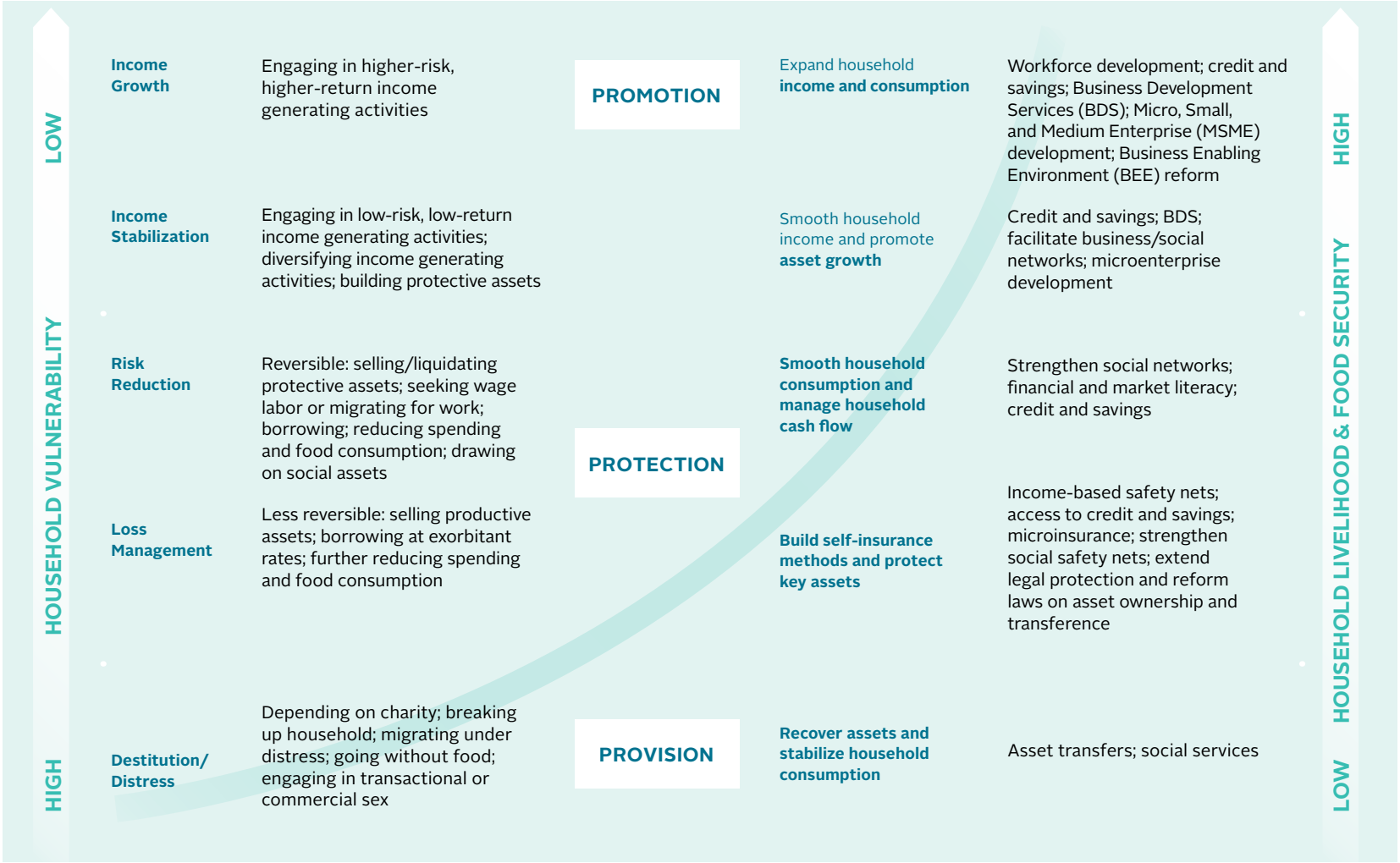
FIGURE 3. LIFT'S PPP FRAMEWORK



Source: Woller, 2011 p. 33

3 ASSESSMENT DESIGN

VAs can be detailed or cursory, long or short, expensive or cheap, depending on how they are designed and what kind of information they are intended to yield. This section describes what steps to expect in a VA, some of the functions a VA can perform, and some methods used for these different purposes. It goes on to suggest some practical criteria for selecting methods.

PAPER OR MOBILE DATA COLLECTION?

Mobile data collection has significant advantages over paper: it can make data collection easier, faster, and more accurate. The data entry process can be avoided, and data can immediately be transmitted from mobile devices to an electronic database during data collection, allowing researchers to identify and address potential errors and begin to identify trends.

Mobile devices require financial investment and may present a learning curve to data collectors. Projects should weigh the costs and benefits to choose which approach for data collection is best.

For more, see the Paper-to-Mobile Data Collection Manual.

WHAT TO EXPECT WHEN CONDUCTING A VA

Though research designs will vary, the VA process follows the same steps as other research activities. The main phases of an assessment are design, preparation, data collection, and analysis and reporting (Kureya, 2013).

DESIGN

When designing an assessment, the project teams should define the key questions that the study should answer. These should serve a purpose for decision-making: whether it be to decide on an intervention design, target an intervention, or to decide on appropriate benchmarks for measuring project success.

Stakeholders, including funders, project partner staff, and beneficiaries, can help define and determine the relevance of these questions.

PREPARATION

Early on, project staff will need to do some sort of situation analysis to obtain as much information as possible on the project context. This will help refine the project scope, and it will help the project team determine which questions can be answered using existing data, and which will require additional primary research. This may include a formal situation analysis or a needs assessment, including a review of secondary data to better understand the macro factors of the vulnerability context.

Next, project staff will need to select the research methods to answer the questions they have identified, including how the data they collect should be analyzed. Methods will be constrained by budget, available sample size, time, and contextual appropriateness. Researchers will need to define the study area and sample size, and develop a sampling frame if one is not already available. Once a study protocol is developed, it will need to be approved by an ethics committee, according to local and donor regulations. If study participants speak a different language than researchers, continual translation of tools will be required while they are under development. Data collectors should be hired and trained, and systems will need to be developed for data capture and management.

Once methods are selected and tools are developed, they will need to be tested. Next, the tools developed should be validated and quantitative tools must assign weights to different domains and indicators. More information can be found about weighting and validation in the “Research Methods” section of this document.

WHO WILL COLLECT THE DATA?

Some projects engage service-providers or case managers to collect data rather than professional enumerators. This can be especially beneficial when collecting sensitive information that requires an existing relationship and trust with the respondent.

However, data collectors must be properly trained and monitored to ensure reliable results.

COLLECTING DATA

The research team will need to make sure that there is ongoing monitoring to ensure compliance with the study protocol. If the protocol is violated, the violation should be reported to the appropriate ethics committees and corrected.

REPORTING AND ANALYSIS

Once the data is collected, it will need to be "cleaned," or checked for any potential errors, which must be corrected. Finally, the research team will analyze and report on the data.

DESIGNING YOUR VA FOR PURPOSE

VAs have several functions for development projects. They can be used for project design, M&E, targeting, and community mobilization and buy-in. The design of the assessment will depend in part on its intended purpose for project decision-making. The level of analysis, for example, is a design consideration that will depend on the purpose of the VA. When a VA is used for targeting, it will be important to collect household-level information. However, when used to inform overall project design, it may be more important to collect information quickly at the community or larger population level to identify overall trends. A summary of the different functions of a VA, including the methods used, outputs produced, level of analysis required, and other considerations, can be found in Table 2.

PROJECT DESIGN, STRATEGY, POLICY, AND COMMUNITY MOBILIZATION

VAs can be a very valuable way to explore the causes of vulnerability and identify solutions. Large-scale assessments may be used by donors or organizations with an ongoing presence in an area who wish to develop long-term strategies. In this case, robust data collection can inform various types of interventions on a large scale. Large-scale research studies may also be appropriate for influencing policy, with special attention to generating the data needed for specific policy decisions. For individual projects constrained by donor timelines, a more focused VA is more practical. This may involve situation analysis using rapid appraisals[2] to collect key information quickly. Information collected in this way will not be useful for targeting, as it is not collected at the individual household level.

Assessments for project design aimed at mobilizing community action typically use participatory methods to define the causes of vulnerability and identify a community-driven action plan to address these causes. These assessments are labor-intensive and are focused on encouraging action rather than collecting large-scale, generalizable research data. It should be noted that any intervention seeking to reduce economic vulnerability should collect data on the livelihood strategies of different groups to tailor interventions to their needs.

MONITORING AND EVALUATION

VAs aimed at collecting M&E data may or may not be the same as those informing project design. These VAs will seek to collect baseline data about what the project seeks to influence to compare to key indicators collected over the life of the project for monitoring purposes, and eventually to compare against endline data from the same group to measure impact. Ideally, impact will be measured using a control group.

[2] Rapid appraisal is defined as "an approach that draws on multiple evaluation methods and techniques to quickly, yet systematically, collect data when time in the field is limited" (Vondal, 2010, p. 1).

TARGETING

Targeting, or identifying participants for program enrollment, is a key feature of ensuring the efficiency of interventions, but can be a controversial process. For HIV-related interventions, targeting may be stigmatizing or cause conflict in a community (World Bank, n.d.). In some communities, vulnerability is so pervasive that targeting is unnecessary. In some circumstances, however, targeting is necessary to ensure that often limited project resources are reaching the most appropriate beneficiaries. There are a number of different approaches to targeting, including geographical targeting, categorical targeting, and means-testing (Devereux et al., 2015). Because ES is usually aimed at the household-level, household targeting based on vulnerability status is emphasized here.

UNDERSTANDING VULNERABILITY: MORE THAN ONE TOOL

No single tool can capture the complexity of economic vulnerability. Vulnerability assessments must seek to capture what is most relevant to project purposes.

Household targeting requires household-level data to identify households at different levels of vulnerability, and prioritize them according to need. This can be done using quantitative surveys or participatory ranking exercises. SEEP's Poverty Outreach Working Group has recommended triangulating different methods of identifying vulnerable beneficiaries (2011, p. 6). A common method starts with geographical targeting of poor villages, followed by wealth ranking exercises to identify vulnerable households, followed by verification that the households are indeed poor or vulnerable, using tools like the PPI (Poverty Outreach Working Group, 2011). OVC programs usually target beneficiaries based on OVC status (categorical targeting) as identified by referrals from government programs or through community-based selection methods. Referred participants are then verified with OVC-specific targeting criteria. These criteria may be derived from a VA. From those referred, further targeting for enrollment in specific services can be done using quantitative assessment tools or individualized needs assessments.

It is important to note that targeting will often require different tools than M&E. Prioritizing households for enrollment usually involves screening based on vulnerability factors that cannot be changed by an intervention, where M&E tools seek to measure changes caused by an intervention.

MATCHING HOUSEHOLDS TO INTERVENTIONS

Matching interventions to households based on vulnerability levels may be a slightly different process than targeting households for project participation. Intervention matching may happen using a household needs assessment conducted by a case manager who is familiar with a household's needs and capacities. For interventions where this type of approach is too costly, matching may be based on rapid or in-depth survey tools designed to match needs to intervention approaches.

TABLE 2. SUMMARY OF VA FUNCTIONS

PURPOSE	OUTPUTS	LEVEL OF ANALYSIS	METHODS USED	OTHER CONSIDERATIONS
Project design, strategic planning, policy	• Socially-defined baseline of wellbeing • Risks and response mechanisms over time for different groups • Characteristics of vulnerable households • Depth and breadth of vulnerability in a given context • Livelihood strategies and context	Population, community, or household level	• Qualitative and participatory methods to understand change over time: life histories, FGDs, key informant interviews, etc. • Rapid appraisals for quick situation analysis • Secondary data analysis • Quantitative surveys	• Economic interventions should seek to understand existing livelihood strategies for different livelihood groups • Assets needed for wellbeing will depend on livelihood type
Community mobilization and buy-in	• Community-identified risk and resilience factors • Actions plans	Community level	Emphasis on participatory activities for community-driven projects	• Project scope must be flexible, iteratively defined by community • Not for "extractive" or large-scale research • Designed to prompt action
M&E	• Progress compared against baseline and goals • Impact evaluated	Individual, Household, community, or population level	• Quantitative methods for reporting clarity • Qualitative methods to understand why changes occur	• More rigorous methods, including control group, recommended for measuring impact
Household targeting to beneficiaries	• Vulnerability status quantified or ranked • Beneficiaries prioritized for project inclusion based on vulnerability status	Household level	• Quantitative indices • Participatory ranking	• Must be tested according to project threshold for inclusion/exclusion error • Alternative methods: geographical or categorical
Matching interventions to beneficiaries	• Vulnerability levels quantified and matched to intervention types	Household or individual level	• Quantitative indices • Needs assessments	• Can use survey tool and/or more subjective case management approaches

QUICK RECOMMENDATIONS FOR OVC IMPLEMENTERS

NGOs implementing OVC programs need to assess household and child-level vulnerability for several program functions. Below is a list of common methods with some recommendations for how to improve them.

TABLE 3. QUICK RECOMMENDATIONS FOR OVC IMPLEMENTERS

FUNCTION	TYPICAL METHODS	RECOMMENDATIONS
Design	• Key informant interviews • Secondary data review	• Livelihood analysis

Targeting	• Identification
	  • Referrals from government entities and NGOs
	  • Participatory exercises
	• Verification and enrollment
	  • Screening tools or indices to identify
		• Separate targeting and M&E tools to ensure that
		  • M&E tools capture changes due to intervention, and
		  • Targeting tools capture household with characteristics most relevant to vulnerability, even if the project cannot

M&E	• Quantitative assessment tools, often used in conjunction with case management	• Ensure that cut-offs between household economic classifications are empirically based
Graduation	• Quantitative assessment tools	• Ensure that threshold for graduation is empirically based

CRITERIA FOR SELECTING METHODS

Project teams may wish to develop their own tools to design a VA, or they may wish to select from existing tools or toolkits and adapt them to the project context. To ensure that the VA is useful to project decision-making, methods selection should be driven by a set of practical criteria such as the below:

TABLE 4. METHODS SELECTION CRITERIA

FUNCTION	TYPICAL METHODS
Resources available	Costs are a big factor in assessment design: money, time, and human resources are all variables in methods selection. Large-scale, statistically-generalizable assessments may not be appropriate to smaller projects, but a long-term presence may necessitate more in-depth assessment and merit higher investment.
Frequency of data collection	Some methods will require multiple data collection points, others only one.
Data requirements	Some methods require the use of existing data, such as national household survey datasets.
Sensitivity and specificity	Targeting efforts will depend on the project's tolerance for inclusion and exclusion errors.[3] This can be informed by a simple cost-benefit analysis to quantify the cost of errors.[4]
Replicability	Replicability is the ability to re-create the study and arrive at the same results. Using objective, replicable methods is an important part of scientific validity in research. For development projects, this is especially relevant to ensure fair targeting and for assessments comparing vulnerability in different locations.
Other considerations	Host government definitions and standards will help shape the assessment design to ensure coordination with local stakeholders.

[3] Sensitivity refers to the ability of a tool to identify program participants who meet the enrollment criteria, Specificity refers to its ability to avoid including those who do not meet such criteria. A sensitive tool will have low errors of exclusion, meaning that it can target most eligible program participants. A specific tool will have low errors of inclusion, meaning that few households who do not meet the enrollment criteria will receive program benefits.

[4] See Schreiner 2013, p. 46

4 COMMON RESEARCH METHODS

Vulnerability is socially-defined and context-specific, so there is no one-size-fits-all approach to VA. It is likely that several data collection methods will be required to understand vulnerability dynamics based on project goals. This section provides an overview of a few methods commonly used in VA.

QUANTITATIVE METHODS

Quantitative research seeks to explain "phenomena by collecting numerical data that are analyzed using mathematically based methods (in particular statistics)" (Creswell, 1994). Quantitative research methods are often characterized by a focus on the collection of numerical data and contrasted from qualitative methods, which are characterized by data focused on words or concepts. This is somewhat of a false dichotomy, as qualitative methods can be used to generate numerical data as well. One of the key distinctions between qualitative and quantitative data collection is that quantitative methods often aim to produce generalizable findings through the construction of representative samples, in order to draw inferences about a wider population using statistical analysis (Iversen, 2004). Qualitative methods typically use non-probability samples and therefore cannot make claims about generalizability. For VAs, household surveys are often conducted with a sample to understand a larger beneficiary population. A few relevant quantitative methods include: secondary data analysis, analysis of descriptive statistics, and index development, and are discussed below.

RESEARCH ETHICS

To protect the participants in a research study, it is important that:

- The study receives approval from its relevant research ethics committee,
- Data collectors are trained in research ethics, and
- Each participant provides informed consent prior to participating.

SECONDARY DATA

Many national governments conduct national surveys to assess the demographic, health, and economic status of their inhabitants, and datasets from these surveys are more available to implementers and researchers than ever before. These data can provide information on the macro context of a project and shed light on structural drivers of vulnerability. Existing data can also provide information on how to stratify data collection according to livelihood type and agroecological zone for livelihood analysis (Holzmann, Boudreau, Holt, Lawrence, & O'Donnell, 2008). The World Bank (n.d.) recommends examining secondary data to inform OVC project design. Potential sources include: State of the World's Children Statistics Annex; the Demographic and Health Surveys' (DHS) Stat Compiler on Macro International's website; or the Children on the Brink report from UNICEF/UNAIDS/USAID. They also recommend consulting with a country's national statistics agency and UNICEF to identify additional data resources, including UNICEF's occasional country-specific reports on the status of women and children.

These data are usually available for free. In addition to project planning, secondary data can be used for targeting. It can provide information on where the highest numbers of OVC are located for geographical targeting.

DESCRIPTIVE STATISTICS

It is not uncommon to see published secondary data at the community, district or census tract level. When it is not available, it may be possible to negotiate access to it. However, secondary data may need to be supplemented with primary data collection if they are outdated, not available at the geographical level needed, or lacking indicators of interest to the project. Conducting a survey can generate descriptive statistics on key demographic and vulnerability indicators to inform project design.

SCALES AND INDEXES

VAs often use household survey data to create a scale or index.

What is it?

A scale or index is a measure designed to capture complex concepts by combining different indicators into one composite score (Babbie, 2009, p. 198). Although the terms are often used interchangeably, a scale usually measures the intensity of individual variables to develop a score, where an index does not. In other words, each indicator in a scale can vary in how many points it contributes to a final scale score based on the strength of the response, whereas each indicator in an index contributes the same amount to the final score.

How do indicators generate a score?

The main ways of assigning weights to indicators include "using expert judgment; applying the arbitrary choice of equal weights; and using statistical methods such as factor analysis or principal component analysis" (Gebrehiwot & van der Veen, 2013, p. 56). Participatory methods can also be used to assign weights.

For VAs, scales or indices often assign households to vulnerability categories according to a points-based score, where the total number of points are divided evenly between the categories. This is an example of an arbitrary or subjective approach to linking scores to vulnerability categories.

VALIDATION

Validation is the process of ensuring that your measurement tool captures the concept that you wish to measure. Means of validation include comparison to existing validated tools or other external criterion that should align with the concept you are measuring. It is very important to validate your tools!

A measure has **face validity** when it obviously captures the concept it is supposed to measure "on its face." For example, a measure of food consumption may include detailed tracking of calorie-intake (Chambliss and Schutt, 2015).

Content validity refers to how well a measure captures all aspects of a concept (Sullivan, 2009).

A measure has **criterion validity** when it yields the same results as a pre-existing measure that is already validated, or one that more directly measures the phenomenon you wish to measure. A self-report measure of personal savings, for instance, could be compared to bank statements to confirm criterion validity.

Finally, when attempting to measure more abstract concepts, or constructs, for which it is difficult to establish face validity or criterion validity, it is desirable to seek **construct validity**. A measure has construct validity when it can be compared to other existing measures that, when combined, fit the theoretical definition of the construct. In other words, to test for construct validity, you can compare your measurement tool against existing tools measuring concepts related to the construct you are attempting to measure (Chambliss & Schutt, 2015). Economic vulnerability, for instance, is associated with poverty and food insecurity, so a VA tool would be expected to vary in similar ways to poverty and food security measures.

Where scores have implications for matching interventions to households, such as PEPFAR's ES pathway categories, it is important for the categories to be empirically validated. This requires additional qualitative research to ensure that the scores link to vulnerability categories in a valid way.

Why use an index or scale?

Scales and indices are attractive because they generate simple, numerical scores. "Headline" vulnerability scores can be used to determine cut-offs for program enrollment or to track progress for M&E purposes. However, these scores are not always useful for decision-making. Vulnerability is complex, so a vulnerability score may not prompt specific intervention types that could better be captured by disaggregated indicators that may be more meaningful to policy- or other decision-makers. For example, it may be understood that low food security scores suggest a need for food aid, but it may not be clear what kind of intervention can best address this vulnerability.

QUALITATIVE RESEARCH

Qualitative research uses non-numerical data, like text, narrative, and direct observation, to explore complex concepts that are not easily measured quantitatively (Namey & Trotter, 2015, p. 443). In VAs, quantitative and qualitative research are often used together. Qualitative research is sometimes used as formative research to help construct quantitative measures. Other times, it is used to better understand quantitative results. Because qualitative research can be open-ended, it allows researchers to ask "why?" better than quantitative research. Qualitative research allows researchers to dig deeply into research concepts in an iterative way that is less constrained than quantitative study designs, which use fixed sampling criteria and data collection instruments.

In vulnerability analysis, qualitative research is important for obtaining information on shocks faced by potential beneficiary households and the assets they use to confront those shocks. It can also be used to understand local perceptions of vulnerability and to develop context-specific vulnerability categories and cut-off points. Common qualitative methods include in-depth interviews, focus group discussions, and participatory appraisal methods. This section will discuss a few methods of particular use to forward-looking vulnerability measures.

INTERVIEWS AND FOCUS GROUPS

In-depth interviews (IDIs) and focus group discussions (FGDs) are some of the most common data collection methods used for development projects. IDIs look and feel like conversations between the researcher and an informant, featuring a series of open-ended questions and probes to obtain the desired information (Namey and Trotter, 2015). IDIs allow researchers to get detailed information from informants selected for having special knowledge about a topic. FGDs, on the other hand, are moderated group discussions with 8-12 participants. FGDs are meant to be an efficient way to collect information from a group, particularly on topics that relate to shared norms or are public in nature (p. 456). Community perceptions of vulnerability, for instance, could be explored using FGDs.

CASE STUDIES

The case study is a research method that allows a researcher to investigate, in depth, a specific case illustrating a phenomenon of interest (Yin, 2013, p. 5). It is particularly useful for determining the "how" and "why" behind complex social phenomena. Case study as a research method is distinct from the teaching method used by law and business schools, which are focused on using case examples to illustrate specific lessons to students. Instead, case study is an iterative research process focused on answering a specific research question through deep investigation of one instance of a social phenomenon of interest. There are many case study methods. Two approaches considered particularly relevant for VA are life histories and deviant case analyses.

Life history research, also known as oral history or oral testimony, is "a systematic account of events, delivered via the spoken word to a listening audience"(Palmer, 2010, p. 527). For vulnerability assessment, life history can be

used to understand changes in an individual's wellbeing over time, and how these changes link to events in the macro context. It can provide insight into the nature of shocks and response strategies to better understand the causal pathways of vulnerability in the project context.

The types of cases selected for case studies can illustrate different phenomena. A typical case study is selected to be representative of an average experience, where a diverse set of cases might be selected to represent the spectrum of variation in experiences (Seawright & Gerring, 2008, p. 297). Deviant cases are used to explore outliers: anomalous cases at both ends of the spectrum. This kind of analysis especially illuminates variables that place otherwise similar households on different vulnerability trajectories.

PARTICIPATORY RURAL APPRAISAL AND RANKING EXERCISES

Participatory rural appraisal (PRA) comprises a set of bottom-up research methods designed to elicit direct engagement with beneficiaries to better understand their perspective and understanding of local problems. Participatory methods can be used to mobilize community action, identify households for targeting, or as a form of exploratory research to inform the development of quantitative vulnerability assessment tools. There are a countless number of data collection techniques that can be employed in PRA, including community mapping, historical trend analysis, wealth ranking, time use exercises, and others. PRA is generally conducted at the community level.

Wealth ranking is a common PRA method used to target beneficiaries for anti-poverty projects. Because external targeting criteria for HIV-related projects can be stigmatizing for participants, the World Bank recommends community-based approaches for targeting at the individual and household levels. Participatory wealth ranking (PWR) can help build community buy-in around targeting decisions and gather information on local perceptions of poverty and wellbeing. Although PWR was originally designed to assess relative levels of poverty, the same methods can be used to explore broader concepts of wellbeing, including vulnerability (VENRO, 2011).

The exercise involves dividing a representative group of community member participants into three to five reference groups (VENRO, 2011). These groups write down the names of all the households in the community on cards, which they place in piles representing different levels of wellbeing, as defined by the group. Each pile is then given a numerical score. The scores of the reference groups are averaged. The resulting information on different wellbeing categories can then be used to inform cut-off points for participant selection (CGAP Microfinance Gateway, 2013). This exercise is a useful way to elicit community perceptions of wellbeing – or vulnerability – to make targeting decisions.

PRA methods are not useful in all contexts. They were designed for rural environments where neighbors are familiar with one another and are bound by high levels of trust. PRA is not appropriate to urban areas where neighbors do not know each other, areas where trust is low (such as conflict-settings), or in situations where the process is subject to elite capture. Ranking exercises that depend on community-level perceptions of vulnerability are only valid at the community level, and they are problematic for informing targeting decisions across different communities, where different concepts of vulnerability may predominate. This can be avoided by delineating a specific, pre-defined concept of vulnerability at the outset in all communities.

5 REVIEW OF VA TOOLS

Although VAs should always be customized to context, assessment design doesn't have to start from scratch. Researchers working on issues related to vulnerability, poverty, and livelihoods have developed a cadre of useful tools for VAs, ranging from validated wellbeing indicators to full-scale VA frameworks and guidance tools. Table 5, lists these tools and their potential uses, although it should be noted that each tool performs certain functions more strongly than others. This section reviews a series of tools selected for relevance to ES interventions, including poverty assessment tools, basic needs and food security indicators, and several examples of existing vulnerability index tools developed by ES projects. Finally, it discusses several comprehensive approaches, including guidelines for using various methods for vulnerability assessment.

TABLE 5. SUMMARY OF USES FOR TOOLS REVIEWED

TYPE	TOOL	PROJECT PLANNING	HOUSEHOLD TARGETING	GEOGRAPHIC TARGETING	M&E	COMMUNITY MOBILIZATION
POVERTY	Progress out of Poverty Index (PPI)	✕	✕	✕	✕	
	Multi-Dimensional Poverty Assessment Tool (MPAT)	✕	✕	✕	✕	
BASIC NEEDS	Food Security Indicators	✕	✕	✕	✕	
	MEASURE OVC Survey Tools	✕		✕	✕	
VULNERABILITY INDEX TOOLS	Vulnerability Assessment Tool (VAT)	✕	✕	✕	✕	
	Household Resilience Index (HRI)	✕	✕	✕	✕	
	Household Vulnerability Index (HVI)	✕	✕	✕	✕	
COMPREHENSIVE APPROACHES	Household Economy Approach (HEA)	✕		✕	✕	
	Individual Household Method (IHM)	✕	✕		✕	
	Household Livelihood Security Assessment (HLSA)	✕		✕	✕	
	Participatory Vulnerability Assessments	✕			✕	✕
	Econometric Poverty Modeling	✕		✕	✕	

POVERTY

Though closely related and often used as interchangeable terms, poverty and vulnerability are distinct concepts. The emphasis of vulnerability analysis is to derive a forward-looking measure that predicts how households confront shocks and stresses. Poverty can be conceptualized and measured to capture this information as well, but most poverty measures are based on consumption patterns compared against a predetermined poverty line. Multi-dimensional poverty measures designed to capture multiple domains of wellbeing are static, rather than forward-looking. Nonetheless, poverty measures are useful indicators as part of VA, as poverty is often a key feature of vulnerability. Some common, validated poverty indicators include the Progress out of Poverty Index and the Multi-Dimensional Poverty Assessment Tool.

PROGRESS OUT OF POVERTY INDEX (PPI)

The Progress out of Poverty Index is a free, 10-item, country-specific questionnaire known as a poverty scorecard developed by the Grameen Foundation. Questions are statistically derived for each country from national household survey data to be the most predictive of poverty at different levels. Questions address household characteristics and asset ownership, the answers to each of which yields a point value. The points are then added up into a score, which is used to estimate the likelihood that an individual falls below a poverty line. The score itself is not a measure of poverty, but used to estimate poverty likelihood according to several poverty lines, including the national poverty line, the $1/day line, and extreme poverty line, among others. PPI scorecards have been developed and validated for 59 countries (Grameen Foundation, 2015). The developer aims to update existing scorecards every five years, and is continually developing additional scorecards for new countries.

The PPI has several uses in a VA. It can be added as an indicator to a household survey to better understand poverty levels in a community. It can also be used as an M&E indicator to detect changes in poverty levels over time in a project population or used for household targeting. However, the PPI is most accurate when aggregating groups of scores. There are significant error rates at the individual and household level that should be considered when using the tool for M&E or targeting. Finally, some users have acknowledged that PPI is not very sensitive to changes, so is not recommended for impact evaluation (Desiere, Vellema, & D'Haese, 2015). The developer has published error rates associated with various targeting cut-offs in the scorecard documentation for each country to assist practitioners in determining whether and how it should be used for targeting.

TOOL 1. PROGRESS OUT OF POVERTY INDEX (PPI)

Uses		• Project Planning • Household Targeting • M&E
Outputs		• Instantly produces a score to determine the likelihood that a household is below a given poverty line
Requirements	**Costs**	• Minimal: tool is free
	Time	• Minimal: 5-10 minute survey, with look-up tables for instant analysis
	Expertise	• Minimal: can be completed by field staff or data collectors with basic training.
	Data	• Data for sample frame
Sensitivity and Specificity		• More accurate for identifying group poverty levels than individual household poverty levels. Published error rates available for targeting at various cut-off points
Frequency of Data Collection		• As desired
Replicability		• Good
Pros		• Simple, easy to use • Analysis is instantaneous • Free • Validated
Cons		• Scorecards may be based on old data • Fairly high error rates at the household level • Scorecards not available for every country
Resources		Progress Out of Poverty. Grameen Foundation. http://www.progressoutofpoverty.org/

MULTI-DIMENSIONAL POVERTY ASSESSMENT TOOL (MPAT)

The MPAT was developed by the International Federation for Agricultural Development (IFAD) in 2008, and updated in 2012, to measure ten dimensions of rural poverty (IFAD, 2014). These include: food & nutrition security; domestic water supply; health & health care; sanitation & hygiene; housing, clothing & energy; education; farm assets; non-farm assets; exposure & resilience to shocks; and gender & social equality.

The MPAT is a household questionnaire that can be customized using a participatory community exercise. It was developed by an international set of development experts from IFAD, other United Nations agencies, international and regional organizations, and universities to be useful to both small organizations lacking in technical and financial resources as well as large, well-funded organizations (IFAD, 2014, p. 41). The household survey lasts about 35 minutes, and comes with a built-in analysis tool for Excel, which automatically generates graphs illustrating scores across the ten domains when data is entered. The tool has been validated and is set up with a default weighting scheme, though the user guide invites users to adjust weights as needed. Rather than collapsing the scores into a single index or poverty "headline," the tool generates a dashboard that illustrates scores across domains. As stated by poverty measurement specialist Martin Ravallion, "being multidimensional about poverty is not about adding up fundamentally different things in arbitrary ways. Rather it is about explicitly recognizing that there are important aspects of welfare that cannot be captured in a single index" (Ravallion, 2010).

The MPAT is not explicitly a VA tool, although it does include a domain focused on exposure and resilience to shocks. For many ES projects, this tool is sufficient to measure progress in key domains of interest, although it cannot be used to match households to interventions without collecting additional data connecting MPAT scores to the categories of the ES pathway (see Annex I) or the PPP Framework outlined by LIFT (see Figure 3) in an empirical way. It should also be noted that the MPAT is designed to measure rural poverty, and that it may require adaptations to be useful in urban settings. It can be used to inform project design and M&E. It may be used for household targeting based on project-derived cut-off points for enrollment.

TOOL 2. MULTI-DIMENSIONAL POVERTY ASSESSMENT TOOL (MPAT)

Uses		• Project Planning • M&E • Household targeting
Outputs		• Generates scores and spider graphs for 10 wellbeing domains at various levels of analysis: household, community, region, etc.
Requirements	**Costs**	• Tool and analysis software are free
	Time	• Typical length for household survey about 35 minutes
	Expertise	• No external expertise required; designed to be used by even small organizations
	Data	• Sample frame
Sensitivity and Specificity		• Targeting not mentioned as potential use
Frequency of Data Collection		• As desired
Replicability		• Good
Pros		• Free • Validated • Short, easy to use • Automatically generates analysis and charts using free, MPAT spreadsheet tool • Provides data on key vulnerability components to demonstrate needs across dimensions, rather than aggregated into a single index
Cons		• Standardized weights based on expert opinion – arbitrary • No ES categories • No info on livelihood strategies • Focus on rural poverty
Resources		Multi-Dimensional Poverty Assessment Tool. IFAD. http://www.ifad.org/mpat/

BASIC NEEDS INDICATORS

Most projects, particularly those targeted to OVC, will be accountable for data on basic wellbeing indicators. Indicators of interest may include demographic information, access to services such as sanitation and utilities, HIV knowledge, and other wellbeing factors. It is likely that these factors will be identified by stakeholders as related to vulnerability, and they can be selected for inclusion in an assessment based on project scope and decision-making requirements. Where possible, it is recommended that VAs use validated wellbeing indicators, such as validated scales or indicators found from country-specific DHS and other national surveys.

One basic need that is highly relevant to economic strengthening and livelihoods work in general is food security. There are a number of different food security indicators available, and choosing between them can be complicated. This section presents an analysis of a number of household-level food security indicators deemed relevant for ES projects. It also includes MEASURE Evaluation's widely-used OVC survey tools, including caregiver and child-level questionnaires, which were designed specifically for PEPFAR OVC projects.

FOOD SECURITY INDICATORS

Food security (FS) is a key indicator of economic security and overall wellbeing, particularly in a context of high HIV prevalence. A common definition of food security, as articulated at the 1996 World Food Summit, is as follows: "Food security exists when all people, at all times, have physical and economic access to sufficient safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life" (FAO, 2008, p. 1). The four basic dimensions of FS are: physical availability of food, economic and physical access to food, food utilization, and stability of availability, access, and utilization over time. Although the FAO states that FS is only achieved when all four of these criteria are met, Jones et al. (2013) point out that "it will be a rare program that is positioned to concurrently address all domains or loci of food security in the conceptual pathway. Therefore, identifying metrics that are especially well suited to the needs and resources of a program is essential for more efficient and effective measurement of food security (p. 502). Because no single FS indicator measures all aspects of food security, projects should take care to select measures based on relevance to project decision-making.

Below is a summary table of a number of FS indicators selected for relevance to household VAs. They feature simple scales that can be added to a quantitative assessment tool at the household level. Some indicators will need to be adjusted to local context.

TABLE 6. SUMMARY OF HOUSEHOLD-LEVEL FOOD SECURITY INDICATORS

NAME	DESCRIPTION	PURPOSE	PROS	CONS	SOURCE
Food Consumption Score (FCS)	Measures dietary diversity and food frequency using 7-day recall data; scores indicate "poor," "borderline," or "acceptable" levels	• Establish prevalence of food insecurity • Monitor changes in food security • Assist in determining food needs to calculate food rations	• Easy to collect data • Easy to calculate score • Valid: correlates with kilocalorie consumption, asset indices, and monthly household expenditures in some African countries • Preferred to diversity only indicator	• Cut-offs can underestimate food insecurity	Technical Guidance Sheet - Food Consumption Analysis: Calculation and Use of the Food Consumption Score in Food Security Analysis. World Food Programme. https://www.wfp.org/content/technical-guidance-sheet-food-consumption-analysis-calculation-and-use-food-consumption-score-food-s
Household Dietary Diversity Score (HDDS)	Measures dietary diversity based on consumption of 12 food groups in past 24 hours; score obtained from 0 to 12	• Serve as a FS impact indicator for USAID Title II funded programs • Help establish prevalence of FS • Assess household-level dietary diversity (DD) • Assess changes in DD/FS over time	• Valid: positively associated with household FS measured by a weighted sum of coping strategies, a lower odds of having inadequate calorie availability at the household level, employment and income, and a lower odds of zinc deficiency	• Only assesses dietary diversity, not food frequency like FCS • No standard cut-offs for defining food insecurity	Household Dietary Diversity Score (HDDS) for Measurement of Food Access: Indicator Guide. FANTA. http://www.fantaproject.org/monitoring-and-evaluation/household-dietary-diversity-score

TABLE 6. SUMMARY OF HOUSEHOLD-LEVEL FOOD SECURITY INDICATORS *(CONTD)*

NAME	DESCRIPTION	PURPOSE	PROS	CONS	SOURCE
Coping Strategies Index (CSI) and Reduced Coping Strategies Index (rCSI)	Locally adapted list of coping strategies and the frequency of their use is generated through focus group discussions; severity weightings assigned to each strategy; 30-day recall Reduced CSI includes 5 most common strategies	• Target food aid and monitor its impact • Identify vulnerable households (original) • Facilitate comparisons across contexts (comparative) • Estimate long-term changes in FS	• Valid: positively correlated with household assets, total expenditure per capita, and percentage of expenditures on food in several African countries • CSI is community-specific: useful for identifying most vulnerable households • rCSI scores comparable across communities	• CSI scores are not comparable across communities • rCSI less useful at identifying most vulnerable than CSI	The Coping Strategies Index: Field Methods Manual (2nd Edition). Feinstein International Center, Tufts University & TANGO. https://www.spring-nutrition.org/publications/tool-summaries/coping-strategies-index-field-methods-manual-2nd-edition
Household Food Insecurity Access Scale (HFIAS)	Set of 9 generic questions representing universal domains of the access component of household food security; generates score of 0–27	• Identify appropriate, context-specific interventions • Assess FS status within regions or households • Monitor and evaluate the impact of FS interventions	• Valid: correlates with other common proxies of household FS	• Similar validity to simpler Household Hunger Scale	Household Food Insecurity Access Scale (HFIAS) for Measurement of Food Access: Indicator Guide. FANTA. http://www.fantaproject.org/monitoring-and-evaluation/household-food-insecurity-access-scale-hfias
Household Hunger Scale (HHS)	Final 3 questions of HFIAS – assesses food quantity and economic access, 30-day recall	• Assess hunger status within and across contexts • Household food quantity • Target interventions • Monitor and evaluate the impact of interventions on household hunger	• Very short (3 questions) and similar validity to HFIAS	• Focus on hunger rather than food security – should be used with other FS measures	Household Hunger Scale (HHS): Indicator Definition and Measurement Guide. FANTA. http://www.fantaproject.org/sites/default/files/resources/HHS-Indicator-Guide-Aug2011.pdf

MEASURE OVC SURVEY TOOLS

The OVC survey tools were developed by MEASURE Evaluation in 2013, and updated in 2015, to assess basic wellbeing indicators relevant to OVC. It includes quantitative questionnaires to assess caregiver/household outcomes as well as child-level outcomes. The purpose of the tools is:

- To enable and standardize the production of population-level child and caregiver well-being data beyond what is available from routine surveys;
- To produce actionable data to inform programs and enable mid-course corrections; and
- To enable comparative assessments of child and caregiver wellbeing and household economic status across a diverse set of interventions and geographical region (Chapman, Foreit, Hickmann, & Parker, 2015, p. 5).

In addition to core wellbeing indicators, additional modules, such as those relating to household economic security, can be added to the questionnaires.

The tools can be used to assess program effects on a population-level, identify the needs of children in a given area, identify where children in need live, and estimate the number of children in need in a given area (p. 7). MEASURE indicates that they should not be used to target specific households, track progress or identify needs at the household level, determine the number of households receiving support, track staff activities, or determine if interventions are being adequately carried out (p. 9).

The OVC survey tools are not designed to yield a forward-looking vulnerability measure, although they may be useful to implementers seeking to incorporate validated wellbeing indicators relevant to OVC. The tool also does not yield data for either household-level program targeting or matching households to ES interventions.

TOOL 3. MEASURE OVC SURVEY TOOLS

Uses		• Project Planning • M&E • Geographic targeting
Outputs		• Quantitative survey data in selected domains of OVC wellbeing
Requirements	**Costs**	• Medium: standard household survey, requires expert personnel. Costs will also depend on research design; if a control group is used for impact evaluation, or if all children in a household are interviewed, costs will be higher.
	Time	• Medium: standard household survey, will require time for adaptation and translation of tools, data collector training, data analysis, etc.
	Expertise	• Requires research expert team, including a statistician • Requires experienced data collectors
	Data	• Data for sample frame. • Should be pilot-tested
Sensitivity and Specificity		• Not for targeting
Frequency of Data Collection		• Appropriate for multiple uses for M&E • Appropriate for cross-sectional situation analysis
Replicability		• Good
Pros		• Standardized PEPFAR indicators included • Additional modules available as needed, including that related to household economic status
Cons		• Measures wellbeing, not vulnerability • Not designed for targeting or M&E at household level • Economic status module not explicitly linked to PEPFAR ES categories or useful for matching households to interventions
Resources		Survey Tools for OVC Programs. MEASURE Evaluation. http://www.cpc.unc.edu/measure/our-work/ovc/ovc-program-evaluation-tool-kit

VULNERABILITY INDEX TOOLS

The tools reviewed so far have included indicators that cover some aspects of vulnerability. This section features several quantitative index tools designed to yield a composite measure of vulnerability. These tools were all selected for relevance to ES projects, with an emphasis on socioeconomic vulnerability. Two tools, SCORE's Vulnerability Assessment Tool (VAT) and Global Communities' Household Resilience Index (HRI) were developed by projects working with PEFPAR funds to classify households into the vulnerability categories of the ES pathway (Annex I). The tools generate a score for each household, and specify the range of scores that belong to each category. It is notable that the link between scores and categories is somewhat arbitrary, based on an even division of total points across the categories, rather than validated in an empirical way based on which intervention types might work best with which households. Because the tools are different, each yields a distinct construct of the PEPFAR categories. A third tool included is the Household Vulnerability Index (HVI), a questionnaire developed specifically for the context of high HIV prevalence in southern Africa. It does not conform to the PEPFAR classification, but it does place households in categories of ascending vulnerability.

Each index is slightly different, based on the objectives of the project and the indicators it needs to monitor. It is important to note that because economic vulnerability is a complex construct, there is no single scale that can be used to measure all of its aspects (Burke et al., 2016).

VULNERABILITY ASSESSMENT TOOL (VAT)

The Sustainable, Comprehensive Responses for Vulnerable Children and their Families (SCORE) Project (2011-2018), led by Association of Volunteers in International Service (AVSI), offers ES to support vulnerable children in Uganda. The VAT was developed and used to inform government-defined national core programming areas (CPAs) for OVC programs as well as additional vulnerability indicators identified by a team of technical experts (Walugembe et al., 2014).

The VAT has been formally evaluated and found to be a reliable tool (MEASURE Evaluation, 2014). However, the accuracy of the tool depends on rapport between households and data collectors, who are also case managers with ongoing relationships with households. As such, the VAT had to be repeated several times before enough trust was developed between data collectors and participants to allow the VAT to yield accurate results. The domains of the VAT include: food security, protection, economic strengthening, and family strengthening/critical services. Each domain is assigned an equal weight of up to 30 points. The data collector's subjective impression contributes up to ten points to the overall score. To be eligible for program enrollment, a household must score a minimum of 40 points in a single category. Households are then matched to program interventions using an open-ended needs assessment process, using a form called the Needs Assessment Tool (NAT). The VAT is not a tool meant to identify the causes of vulnerability and it does not include domains related to shocks and stresses, which limits its utility for project design. Instead, SCORE uses the VAT for program targeting and M&E.

The VAT is a short, simple tool that can get key information on basic needs and provides a standardized vulnerability assessment process. Because it is used in tandem with participatory targeting methods, it may be useful for identifying vulnerable households with relative accuracy. The NAT's individualized, case management approach is likely also useful for matching households to interventions that will be the most beneficial to them. However, both tools are affected by a degree of subjectivity. The cut-off points for the VAT are based on an arbitrary weighting system, and there are no objective guidelines for matching households to interventions using the NAT. Finally, the VAT's assessment of household economic status is somewhat limited. The few indicators on economic status are based on income, which may be a poor indicator of economic vulnerability in resource-poor settings, where income may be difficult to quantify and where assets may be more indicative of economic wellbeing.

TOOL 4. VULNERABILITY ASSESSMENT TOOL (VAT)

Uses		• Household Targeting • M&E • Project Design
Outputs		• Quantitative survey data. • Generates household-level vulnerability scores according to ES pathway categories
Requirements	**Costs**	• Medium: the tool is free, but should be updated for local context. Needs assessment will require individualized household-level services.
	Time	• Medium: brief household survey, but may need to be administered several times by case managers with rapport with beneficiaries to ensure accuracy of answers to sensitive questions
	Expertise	• Medium: requires trained data collectors and researchers to adapt tool to context, but no advanced statistical techniques required for analysis.
	Data	• Sampling frame
Sensitivity and Specificity		• Unknown
Frequency of Data Collection		• Can be done frequently, but requires rapport
Replicability		• Weak; requires good rapport between data collector and household member interviewed for sensitive questions.
Pros		• Simple, brief tool • Uses PEPFAR ES categories • Comprehensive wellbeing domains in alignment with Uganda government OVC guidelines • Triangulated with case management • Found to be reliable
Cons		• Arbitrary cut-off points between vulnerability categories • Does not assess shocks/stresses • Requires rapport between household and data collector
Resources		SCORE VAT and NAT. http://score.or.ug/tools/

HOUSEHOLD RESILIENCE INDEX (HRI)

Higa Ubeho (2010-2015), managed by Global Communities, is another USAID/PEPFAR-funded ES project for OVC in Rwanda. To assess household economic resilience, it developed a very streamlined rapid assessment tool based on the PEPFAR ES pathway categories known as the Household Resilience Index (HRI). The tool maps the PEPFAR categories onto a government-defined poverty classification scheme known as Ubudehe. Although the tool is defined as a measure of resilience, it serves the same practical function as a vulnerability assessment, and the domains of the tool are focused on resiliency to health and economic shocks. The purpose of the tool is to target households and track changes over time. Each domain is made up of three indicators. Domains include: assets and income, expenses, and health outcomes. The first two categories are weighted 35 points, and the latter is weighted 30. Scores of 0-30 are considered Destitute, 31-60 Struggling to Make Ends Meet, and 61-100 Ready to Grow.

Despite the appealing simplicity of the tool, Global Communities has noted that it is somewhat rigid and is working to update it to include a broader set of indicators. One of the challenges noted were urban/rural discrepancies, as indicators such as "livestock owned" and "food production" will have highly different connotations depending on context. Another issue with the tool is that some questions are subjective or difficult to answer. One indicator is "ability to pay for basic needs," with three response options: "very difficult," "manageable," or "easy." Basic needs are not clearly defined or measured in any objective way.

TOOL 5. HOUSEHOLD RESILIENCE INDEX (HRI)

Uses		• Project Planning • Household Targeting • M&E
Outputs		• Quantitative survey data • Generates household-level vulnerability scores according to PEPFAR ES categories
Requirements	**Costs**	• Minimal: simple survey should be tailored to context
	Time	• Minimal: short tool with simple scoring scheme
	Expertise	• Minimal, although a trained researcher should tailor to context
	Data	• Sample frame
Sensitivity and Specificity		• Unknown
Frequency of Data Collection		• Can be done frequently
Replicability		• Poor: questions are vague and subjective
Pros		• Very simple, short tool • Direct alignment with PEPFAR categories • Alignment with Rwanda government categories of poverty
Cons		• Very subjective • Rigid • Rwanda-specific
Resources		Global Communities in Rwanda's Household Resiliency Index: Guide for measuring household economic resiliency. Global Communities. http://www.seepnetwork.org/global-communities-in-rwanda---s-household-resiliency-index-resources-1384.php

HOUSEHOLD VULNERABILITY INDEX (HVI)

The Household Vulnerability Index (HVI) was developed by the Food, Agriculture and Natural Resources Policy Analysis Network (FANRPAN) in 2004 to measure household vulnerability. It is a statistical index tool that measures household vulnerability based on the effects of "HIV and AIDS pandemic on household agriculture and food security" (FANRPAN, 2011). The HVI was developed to identify vulnerable households and to evaluate "the impact of the epidemic on household food security...over time" (Kureya, 2013, p. 5). It offers a rural, food security-focused approach to vulnerability, which it defines as the "presence of factors that place households at risk of becoming food insecure or malnourished" (p. 6). The tool is designed to assess shocks and stresses as well as resilience factors.

The HVI offers a generic questionnaire template featuring 15 domains of vulnerability, and it is designed to be used through semi-structured household interviews. The tool comes with a software tool which is used to calculate the index, and can be used with an online portal that allows for both sharing results with other users and online calculation of the index. Households receive a score between 0 and 100 points, which is then used to assign them to one of three categories: those scoring in the top third are considered "coping", the middle third "acute level" households, and the bottom third "emergency level" households requiring immediate survival assistance. These cut-offs are arbitrary but can be adjusted. The tool provides for alternate calculation of domain weights based on participatory community input.

The HVI can be used to identify study population needs for project planning or household level monitoring and targeting. Since it was designed specifically for rural contexts in southern Africa, it may require substantial modifications for use in other contexts. The vulnerability categories generated by the tool should be adjusted to be valid in the project context.

TOOL 6. HOUSEHOLD RESILIENCE INDEX (HRI)

Uses		• Project Planning • Household Targeting • M&E
Outputs		• Quantitative survey data • Generates household-level vulnerability scores: coping, acute, and emergency levels
Requirements	**Costs**	• Average for household survey. Tool is free. May be informed by additional qualitative research.
	Time	• Medium: will depend on level of stakeholder coordination and customization of instrument
	Expertise	• Medium: analysis requires statistical expertise, customization will require professional research expertise, and trained data collectors required for the survey
	Data	• Sample frame
Sensitivity and Specificity		• Unknown
Frequency of Data Collection		• Can be used once for situational analysis, or multiple times for M&E
Replicability		• Good
Pros		• Customizable • Considers shocks and stresses • Covers main asset capitals of SLA • Analysis software included • Toolkit provides guidance on preparation for assessment
Cons		• Arbitrary weights and category cut-offs • More relevant to rural locations • Not relevant to heterogeneous populations
Resources		Contact Development Data for tool and related resources. info@developmentdata.info

REVIEW OF COMPREHENSIVE APPROACHES AND TOOLKITS

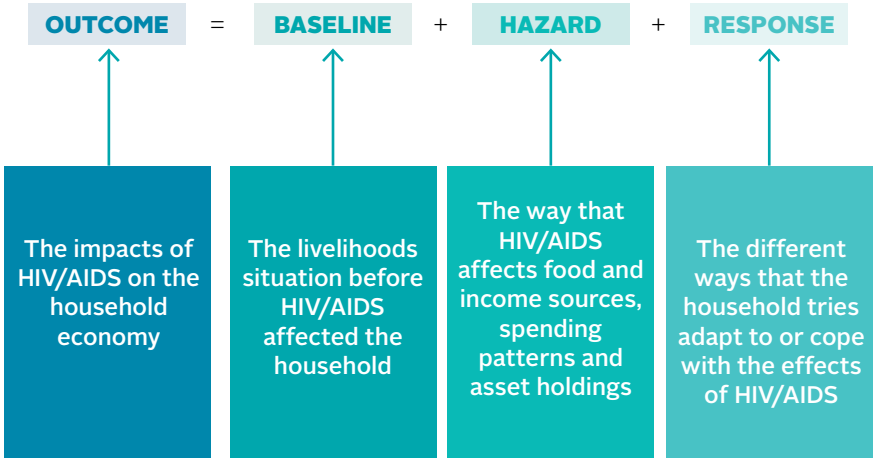
Rather than individual tools, this section focuses on comprehensive guidance offering more broad-based approaches to vulnerability assessment. These approaches include suggestions for specific methods, sometimes in the form of a toolkit, and include options for customization. Other approaches exist, particularly those focused on food security and disaster relief management, but are excluded in favor of socioeconomic approaches related to ES.

HOUSEHOLD ECONOMY APPROACH (HEA)

The Household Economy Approach (HEA) is a livelihoods-based analytical framework developed by Save the Children UK in the early 90s. It was designed to assess how people access food and cash to predict the impact of national-level shocks, such as famine, across different livelihood and wealth groups, with an aim to better target food aid (Lawrence et al., 2008). The use and scope of HEA has since expanded to encompass the effects of shocks on broader livelihood outcomes, and it is a popular approach to livelihood assessment. Guidance documentation offers a number of potential modules and approaches to the basic method, including power, conflict, and political analysis, integration of the sustainable livelihoods framework, and a supplement on the application of HEA for HIV-affected households and children (Boudreau, 2008). HEA seeks to model the effects of specific hazards on household wellbeing. In the case of HIV/AIDS, this requires detailed analysis of the potential effects of HIV on households, including illness, death, taking in an orphan, etc., to generate impact predictions for the household economy.

HEA is a very comprehensive, time-intensive method of vulnerability assessment that requires high levels of technical expertise to implement. A pared-down version of the approach, known as a rapid HEA, requires less time and data collection and examines only one livelihood zone at a time. The baseline and outcome predictions of an HEA are designed to be valid for up to five years, though this period is shorter for a rapid HEA.

FIGURE 4. MEASURING VULNERABILITY USING HEA



Source: Boudreau et al., ch. 7, p. 39

TABLE 7. RAPID HEA VS. STANDARD HEA

	RAPID HEA	STANDARD HEA BASELINE
On-line training	1 day	n/a
Class-room training	2 days	6 days
Field-work	6 days	12 days
Data Collection	5 Villages	8–12 Villages
Period of Analysis	Reference Year & Current Season	Reference Year only
Data Entry, Analysis & Report Writing	3 days	6 days
TOTAL	**2 weeks**	**4 weeks**

Source: Boudreau et al., ch. 7, p. 39 Source: Situation and Response Analysis Framework for Slow Onset Crises, 2014

HEA requires high levels of expertise, with official certification programs available to ensure proper training. Given its labor intensive nature, HEA is primarily useful for program design and meso-level targeting. It generates a baseline based on households selected to represent different wealth and livelihood groups, usually collecting data through group interviews. Because households surveyed are not randomly sampled, they are not statistically representative of a given population, and HEA data cannot be used to target individual households.

TOOL 7. HOUSEHOLD ECONOMY APPROACH (HEA)

Uses		• Project Planning • Geographic Targeting • M&E
Outputs		• Quantitative and qualitative data based on sustainable livelihoods approach analysis • Population-level data
Requirements	**Costs**	• Relatively high, although this depends on scope
	Time	• Medium to high, depending on methods selected • 2-6 months • 4 weeks for a baseline • 7-10 days/livelihood zone
	Expertise	• High: requires specialist expertise
	Data	• National datasets available in some southern African countries
Sensitivity and Specificity		• More appropriate for geographical targeting, as household-level data not available, although it may inform a targeting tool
Frequency of Data Collection		• Guidelines are for just one baseline, but it can be done annually to monitor vulnerability changes
Replicability		• Good
Pros		• Provides robust data for risk modeling • Clear instructions for data collection and analysis
Cons		• Not useful for household targeting • Simplified dataset based on "typical household" rather than sound statistical sampling
Resources		Lawrence, M., Holzmann, P., O'Donnell, M., Adams, L., Holt, J., Hammond, L., & Duffield, A. (2008). The Practitioners' Guide to the Household Economy Approach. In T. Boudreau (Ed.): Save the Children. http://www.savethechildren.org.uk/resources/online-library/practitioners%E2%80%99-guide-household-economy-approach Holzmann, P., Boudreau, T., Holt, J., Lawrence, M., & O'Donnell, M. (2008). The Household Economy Approach: A guide for programme planners and policy-makers: Save the Children UK. https://www.savethechildren.org.uk/sites/default/files/images/HEA_Guide.pdf

INDIVIDUAL HOUSEHOLD METHOD (IHM)

HEA is designed to illustrate the big picture on vulnerability, where the Individual Household Model (IHM) offers more granular information on vulnerability at the household level. IHM has similar objectives and techniques as HEA, but is distinguished by its approach to sampling (Holzmann et al., 2008). Where HEA conducts group interviews with representatives of households belonging to different wealth groups, IHM utilizes semi-structured interviews with individual households selected using either random sampling or "whole village" samples. This generates more detail on household-level vulnerability as well as data needed for targeting. Another difference is that the results of IHM analysis are expressed in terms of household disposable income rather than access to food and other resources (Petty & Seaman, 2004). Like HEA, IHM requires high levels of technical expertise and is a labor intensive process that generates a lot of data.

TOOL 8. INDIVIDUAL HOUSEHOLD METHOD (IHM)

Uses		• Project Planning • Household Targeting • M&E
Outputs		• Quantitative and qualitative data based on sustainable livelihood analysis • Includes household-level data for targeting
Requirements	**Costs**	• Relatively high: depends on scope of assessment
	Time	• Likely medium to high, similar to HEA
	Expertise	• High: requires specialist expertise
	Data	• Sample frame
Sensitivity and Specificity		• Unknown
Frequency of Data Collection		• Surveys can be repeated for M&E use
Replicability		• Good
Pros		• Statistically generalizable • Provides robust data for risk modeling • Clear instructions for data collection and analysis
Cons		• Labor-intensive
Resources		Individual Household Method. Evidence for Development. http://www.efd.org/our-work/methods/the-individual-household-method-ihm/ http://www.careclimatechange.org/files/toolkit/CARE_HLSA_Toolkit.pdf

HOUSEHOLD LIVELIHOOD SECURITY ANALYSIS (HLSA)

Household Livelihood Security Analysis (HLSA) introduced by CARE in 1994 is a comprehensive, multi-disciplinary approach to vulnerability assessment based on the Sustainable Livelihoods approach. HLSA collects quantitative, qualitative, and analytic (causal) data to better understand the impacts of broader systems on livelihoods at multiple levels of analysis (Cannon, Twigg, & Rowell, 2005). It takes an asset-based approach to assess the domains of economic security, food security, health security, educational security and empowerment (Lindenberg, 2002). Although originally designed to use PRA and RRA to inform project design, HLSA has also been used to develop quantitative household surveys to generate more detailed and statistically-generalizable data.

HLSA is a highly resource-intensive process that provides a large amount of data to inform ongoing program presence rather than a short-term project. It begins with an exploratory study to gather information on the macro context, months before implementing the full analysis. Next, techniques such as institutional profile mapping, stakeholder identification and participation, and site selection provide the foundation to create livelihood profiles at the community level. In line with the sustainable livelihood framework, HLSA seeks to link macro level information with data at the community, household, and intra-household levels, inventorying livelihood resources, such as "natural capital, financial capital, physical capital, human capital, social capital, political capital" (Frankenberger, Luther, Becht, & McCaston, 2002, p. 50). A first level of analysis yields data on hazards and risks, risk management mechanisms, and livelihood outcomes. A second level is used to identify vulnerable individuals and groups, distinguish between chronic and temporary poverty, and identify opportunities for intervention (Frankenberger et al., 2002, p. 50). HLSA guidance describes uses for project planning, M&E, and geographic or meso-level targeting.

TOOL 9. HOUSEHOLD LIVELIHOOD SECURITY ANALYSIS (HLSA)

Uses		• Project Planning • Household Targeting • M&E
Outputs		• Quantitative and qualitative data based on sustainable livelihoods analysis. • Population-level data.
Requirements	**Costs**	• High: requires data collection on multiple levels
	Time	• Time-intensive. Pre-assessment work begins several months before field work, which can last one week to two months.
	Expertise	• High: requires strong research capacity
	Data	• Pre-survey assessment should be conducted to identify appropriate sites for RRA
Sensitivity and Specificity		• Depends on tools used
Frequency of Data Collection		• Depends on scope. Survey components may be repeated for M&E purposes.
Replicability		• Depends on quality of protocol. HLSA provides general guidelines, and is not a tool itself.
Pros		• Comprehensive livelihood data collection can inform long-term intervention programming
Cons		• Collects large amounts of data, not all of which will be directly relevant to project decision-making • Requires high levels of expertise
Resources		Frankenberger, T. R., Luther, K., Becht, J., & McCaston, M. K. (2002). Household Livelihood Security Assessments: A Toolkit for Practitioners. Atlanta, Georgia: CARE USA.

PARTICIPATORY VULNERABILITY ASSESSMENTS

Guidelines have been produced by several development agencies for participatory vulnerability assessment at the community level, often with a focus on exploring the potential impacts of natural hazards and using the participatory platform to engage community members in problem-solving and to take action to enhance their resilience.

Action Aid developed its guidelines for Participatory Vulnerability Assessment (PVA) in 2000 as a rights-based approach with a focus on action-planning (Chiwaka & Yates, 2004). PVA seeks to foment political change as a "multi-level, multi-stakeholder approach," where community level analysis is used to influence policy-making at higher levels. The functions of PVA are:

1. **"to diagnose vulnerability as well as its causes (this may be done as a baseline that takes a broad view of vulnerable situations);**
2. **to focus on specific vulnerable groups, hazards or locations; or**
3. **to inform better emergency preparedness, mitigation and response as well as better development work (this may be for a new or existing programme or overall strategy)" (Chiwaka & Yates, 2004, p. 15).**

Christian Aid's Participatory Vulnerability and Capacity Assessment (PVCA) is a similar approach, but with a greater emphasis on identifying community capacities, or resilience to shocks. Guidance advises that PVCA should not be used in conflict situations, while PVA guidance does not prohibit this.

Given the time required to complete participatory assessments, these are most appropriate for intervention at the level of one or several communities. These methods run the risk of being biased by community power dynamics or facilitator input. Many participants may expect an immediate benefit following the assessment, so if immediate results are not evident, participant disappointment is also a risk. Guidance emphasizes that participatory activities should be connected to immediate action rather than as a mere data collection exercise. The primary output of these activities is action-planning.

TOOL 10. PARTICIPATORY VULNERABILITY ASSESSMENTS

Uses		• Project Planning • Geographic Targeting • M&E
Outputs		• Primarily qualitative data reflecting community's perspective on problems and solutions • Community action plans.
Requirements	**Costs**	• Depends on scope
	Time	• Depends on number of communities involved – examples estimate 6 days of field work; 3-4 days per community
	Expertise	• Medium – PVA team should be familiar with PRA
	Data	• Stakeholder analysis, secondary data for problem identification
Sensitivity and Specificity		• Guidance does not include targeting at household level, although ranking tools could be used
Frequency of Data Collection		• Once for planning or baseline
Replicability		• Good
Pros		• Facilitates community-driven action • Facilitates political change at multiple levels • Vulnerability focus: considers shocks and stressors as well as resilience factors
Cons		• Guidance does not include household targeting • Requires time and resources to coordinate at multiple levels • Not for large-scale "extractive" data collection • Not practical for monitoring, but can be used to develop evaluation baseline
Resources		Chiwaka, E., & Yates, R. (2004). Participatory Vulnerability Analysis: A Step-By-Step Guide for Field Staff: ActionAid International. https://www.actionaid.org.uk/sites/default/files/doc_lib/108_1_participatory_vulnerability_analysis_guide.pdf Christian Aid. (2009). Participatory Vulnerability and Capacity Assessment: Christian Aid. http://programme.christianaid.org.uk/programme-policy-practice/sites/default/files/2016-03/christian-aid-good-practice-guide-PVCA-oct-2009.pdf Action Contre la Faim. (2013). PCVA manual – practitioner manual for field workers. Action Contre la Faim International. http://www.actioncontrelafaim.org/sites/default/files/publications/fichiers/acf_2013_-_practical_manuel_pcva.pdf

ECONOMETRIC POVERTY MODELING

Econometric modeling can be used to predict vulnerability to falling into poverty, which can be defined in the most basic terms by consumption, or in a more multi-dimensional fashion by integrating other wellbeing variables. The measures most often used to calculate vulnerability to poverty are Vulnerability as Expected Poverty (VEP) and Vulnerability as Expected Low Utility (VEU).

The Vulnerability as Expected Poverty (VEP) metric simply determines the likelihood that an individual or household falls below a given consumption threshold based on indicators of household characteristics related to poverty, shocks, and risks (Chaudhuri, Jalan, & Suryahadi, 2002). VEP measures tend to be similar to static poverty measures, so they are most useful in situations where a large portion of the population is just above the poverty line and have the potential to fall below it (Hoddinott & Quisumbing, 2003). It is easily calculated, and though panel data yield more accurate results, it is possible to measure VEP with cross-sectional data (Jha & Dang, 2009).

Vulnerability as Expected Low Utility (VEU) measures vulnerability "as the utility lost due to risk, as the difference between the expected household consumption and the certainty-equivalent consumption," or consumption that would have occurred without the pressures of risk (Jha & Dang, 2009, p. 46). VEU is a more robust measure of vulnerability than VEP, but it can be challenging to calculate and relies on panel data, which can be expensive to collect or difficult to obtain. VEU and VEP can be used together in a complementary fashion, and the definition of risk as a function of consumption or income can be replaced by health, education or other indicators of wellbeing (Hoddinott and Quisimbung, 2003).

Econometric modeling can provide vulnerability "headlines" useful for policy-makers or for targeting resources to specific regions. It is not recommended to use VEP and VEU for the purposes of individual level targeting, as these measures are much less accurate than when used at the aggregate level (Bérgolo, Cruces, & Ham, 2012). Both utilize household surveys, either collected by the project or via secondary datasets, and require expert analysis. VEU may be particularly costly, given its reliance on panel data.

TOOL 11. ECONOMETRIC POVERTY MODELING

Uses		• Project Planning • Household Targeting • M&E
Outputs		• Quantitative, population-level poverty data
Requirements	**Costs**	• Medium to high, depending on availability of existing data and scope. Collecting panel data is costly but enhances quality of metrics.
	Time	• Can take longer if panel data collected
	Expertise	• High: need econometrics expertise
	Data	• Sample frame • Can do calculations with secondary data, if available at the appropriate level
Sensitivity and Specificity		• Poor at the household level
Frequency of Data Collection		• Panel data recommended
Replicability		• Good
Pros		• Can be used to quantitatively model estimates of impact of different shocks on poverty levels • Generates vulnerability headlines useful for policy-makers
Cons		• Can be difficult to obtain panel data in developing contexts • Requires high levels of expertise • Not practical for regular M&E • Not recommended for household targeting
Resources		Bérgolo, M., Cruces, G., & Ham, A. (2012). Assessing the Predictive Power of Vulnerability Measures: Evidence from Panel Data for Argentina and Chile. Journal of Income Distribution, 21(1), 28-64. Hoddinott, J., & Quisumbing, A. (2003). Methods for Microeconometric Risk and Vulnerability Assessments. Social Protection Discussion Paper. Social Protection Unit, Human Development Network. World Bank. Jha, R., & Dang, T. (2009). Vulnerability to Poverty in select Central Asian Countries. The European Journal of Comparative Economics 6(1), 17-50.

6 CONCLUDING SUGGESTIONS

This guidance document has laid out the theoretical background on vulnerability, including a proposed framework for ES interventions, and has presented a set of criteria to use in selecting from a number of available VA methods, tools, and approaches. In the design process, assessment teams should also be wary of potential pitfalls, including using overly-expansive definitions of vulnerability, defining vague or empirically-unfounded beneficiary categorizations, failing to recognize diversity among the beneficiary population, and modifying the intended uses of existing research tools.

Broad definitions of vulnerability can result in vague results which can be difficult to connect to what a project can actually accomplish to meet beneficiary needs. The vulnerability equation measures specific risks against a household's capacity to respond to those risks. The risk function is similar to Chambers' concept of "external" risk, where the capacity to respond refers to "internal" risk (1989). Since the population affected by HIV is so broad and diverse, and the effects of the HIV context are multiple, most VAs for OVC projects choose to emphasize internal risk and ongoing stresses rather than modeling out the effects of specific shocks. This focus on internal risk mirrors an overall shift in the discourse among development agencies in recent years away from vulnerability and toward resilience. The effects of shocks, however, should not be forgotten, particularly for ES projects. We recommend that OVC projects with ES interventions include a VA module focused on economic vulnerability, with other modules focused on other indicators of interest, to ensure that useful data is generated to guide ES intervention.

Another mistake that results in data without immediate use for projects is the assumption that households in a given project context are basically similar. Sustainable livelihoods approaches often assess vulnerability using asset indices. Assets, however, mean different things to different households. In rural settings, where livelihoods are more agriculturally-based, livestock may be a key feature of a resilient household. In an urban setting, however, livestock may not be an important asset. It is important to disaggregate groups of people by livelihood strategies. Other stratifying features, like gender or disability, may also be considered. Whatever key distinctions are found between population groups, data will need to be disaggregated to reflect the needs and characteristics of the groups of interest. Some tools are explicitly designed for specific contexts or populations. The MPAT, for example, is designed to assess rural vulnerability. These may require adaptations to be suitable for other contexts.

One use identified for a VA for ES is for matching interventions to households according to their needs, using the PEPFAR's ES pathway approach as guidance. How specifically do you need to distinguish between vulnerability levels for intervention matching? In many contexts, everyone who is poor and also affected by HIV is vulnerable. As such, some projects may prefer to simply assess selected poverty and wellbeing indicators rather than attempting to develop a forward-looking vulnerability measure. A major purpose behind distinguishing between categories of vulnerability is to help ensure that households involved in ES are taking on the appropriate level of risk; neither exposed to interventions requiring more investment and risk than a household can handle, nor insufficient risk to generate enough of a return to make a difference on their economic situation. There are no standardized distinctions between vulnerability categories, so projects will need to identify what allows households to take on different

levels of risk in a given context. The safest way to ensure that households are appropriately matched to interventions is to assess individual household needs using a case management approach.

Finally, assessment teams should ensure the proper use of tools. Most tools require some level of expertise – at least familiarity with M&E research – and all require some training. Before using a tool, assessment teams are recommended to contact the tool's developer or an expert familiar with the tool to get proper training and to confirm appropriate use of the tool, including ensuring that the outputs the tool can generate are most useful for project decision-making and that any modifications are methodologically sound. A clear concept of project objectives and the role of a vulnerability assessment in project decision-making will help guide the process of designing and selecting the most appropriate methods for vulnerability assessment.

DISAGGREGATING DATA

Even specific vulnerable groups, such as orphans and vulnerable children, are diverse.

Girls have different needs than boys, and children with overlapping vulnerabilities, such as disability or membership in a marginalized minority group or caste will have their own specific needs. OVC households with different livelihood sources will have different economic needs and opportunities.

Disaggregating data according to these features helps shed light on programming needs.

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ANNEX 1. PEPFAR ES PATHWAY CATEGORY DESCRIPTIONS

FAMILY SITUATIONS AND IMPLICATIONS FOR PROGRAMMING	
FAMILIES IN DESTITUTION	
Characteristics	**Resilience outcomes**
Trouble providing/paying for basic necessities (like food)	Recover assets and stabilize household consumption
No discernible or predictable source of income but potentially a lot of debt they cannot pay	**Purchasing power outcomes**
Very few liquid assets (e.g., cash savings, livestock, food/crop stores, and personal belongings that could be sold or traded for money)	(Re)build short-term capacity to pay for basic necessities
Probably classified as extremely food-insecure	**Evidence-based strategies**
Take care to understand whether this situation is chronic, transient, or acute	Consumption support
FAMILIES STRUGGLING TO MAKE ENDS MEET	
Characteristics	**Resilience outcomes**
Usually paying for basic needs (like food) but not regularly paying for other needs (like school fees), especially if they require lump-sum payments	Build self-insurance mechanisms and protect key assets
One or more predictable sources of income	Expand income and consumption
Some liquid assets (as described above), which may fluctuate throughout the year as they are accumulated and liquidated	**Purchasing power outcomes**
Seasonal fluctuations in income/expenses, especially due to agricultural calendar (i.e., they do well for one part of the year but poorly for another part of the year)	Strengthen family capacity to match income with expenses
Probably classified as moderately food-insecure	**Evidence-based strategies**
	Money management
FAMILIES PREPARED TO GROW	
Characteristics	**Resilience outcomes**
Usually paying for both basic needs (like food) and other needs (like schooling and basic health care) on a regular basis; possibly struggling, but usually managing, to make lump-sum payments	Smooth income and promote asset growth
Some liquid assets that fluctuate less throughout the year than for struggling families	Smooth consumption and manage cash flow
Seasonal fluctuations in income/expenses, but probably not as dramatic as for struggling families	**Purchasing power outcomes**
Probably classified as mildly food-insecure	Grow family income to enable more/larger investments
	Evidence-based strategies
	Income promotion

Source: PEPFAR, 2012, p. 42

ANNEX 2. ONLINE RESOURCES FOR RESEARCH METHODS

QUANTITATIVE METHODS

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QUALITATIVE METHODS

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MOBILE DATA COLLECTION

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