

Global Food Security Strategy Technical Guidance

Objective 2: Strengthened Resilience Among People and Systems

This is one of 18 technical guidance documents for implementing the U.S. Government's Global Food Security Strategy. The entire set of documents can be found at www.feedthefuture.gov and www.agrilinks.org.

Introduction

The elevation of resilience to a core objective for Feed the Future under the U.S. Government's [Global Food Security Strategy](#) (GFSS) reflects the reality that poor and near-poor households and communities live in increasingly complex risk environments and are subject to a range of shocks and stresses that threaten their food security, nutrition, and ability to sustainably escape poverty. In the extreme, this has resulted in recurrent, large-scale humanitarian emergencies that threaten the lives and livelihoods of the most vulnerable, negatively impact national and regional economies, and cost the U.S. Government and others billions of dollars in humanitarian spending and emergency food assistance.¹

These complex and compound risks, and the inability to effectively mitigate and manage them, account for the alarming rates at which households fall back into poverty and non-poor households descend into poverty for the first time.² Although significant progress in reducing poverty has been made, it is constrained by this counter dynamic. In Ethiopia, for example, the prevalence of poverty fell by an estimated 33% between 2000 and 2011.³ However, 63% of those who escaped poverty between 1999 and 2009 fell back into it in the same period, suggesting that net poverty reduction would be substantially higher if households were able to sustainably escape. The rate at which households in Kenya escaped poverty, only to fall back into it during a similar timeframe, was 44%. Rates in Asia are lower—but still significant—ranging between 20-25%. Sustainably reducing poverty clearly not only requires enabling people to escape poverty, but also strengthening the resilience of people, households, communities, systems, and countries to escape it for good.⁴

Strengthening resilience is also cost effective. This is most evident where recurrent crises lead to repeated, large-scale humanitarian emergencies. For example, a study by the UK's Department for International Development (DFID) in Kenya and Ethiopia estimates that, over a 20-year period, every \$1 invested in resilience will result in \$2.9 in reduced humanitarian spending, avoided losses, and development benefits.⁵ Recent evidence from the lowlands of Ethiopia also speaks to this value for money: Households in communities reached by USAID's comprehensive resilience programs were better able to maintain their food security (4% decline) in the face of the historic drought that hit the country in 2016, whereas other households experienced a substantial (30%) decline.⁶

Resilience is a set of absorptive, adaptive, and transformative capacities for reducing and ultimately eliminating poverty, hunger, malnutrition, and humanitarian assistance needs in the complex risk environments in which we work and where poor and chronically vulnerable people live.⁷ It is a necessary but not sufficient condition to address the goals under Feed the Future. Strengthening resilience among people and systems (Obj 2) requires approaches that enhance all three capacities by increasing sustainable productivity (IR4) and helping people and systems to proactively reduce, mitigate, and manage risk (IR5) and adapt to and recover from shocks and stresses (IR6). Inclusive and sustainable agricultural-led economic growth (Obj 1) and a well-nourished population (Obj 3) are also essential for strengthening resilience capacities and strengthening resilience is similarly essential for achieving these objectives. This guidance focuses on evidence-based strategies for strengthening resilience through IR5 and IR6. Please see the separate guidance document for IR4.

Terminology

A common understanding of the following terminology is important for designing and implementing resilience approaches:

Absorptive Capacity: The ability to minimize exposure or sensitivity to shocks and stresses (ex ante) where possible and to manage and recover quickly when exposed (ex post).^{8,9}

Adaptive Capacity: The ability to make proactive and informed choices based on changing environmental, climatic, social, political, and economic conditions.¹⁰

Transformative Capacity: System-level changes, such as investments or improvements in governance mechanisms, agroecological systems, infrastructure, formal and informal social protection mechanisms, basic service delivery, and policies/regulations.^{11,12}

Shock(s): An acute, short to medium-term episode or event that has substantial, negative effects on people's current state of well-being, level of assets, livelihoods, or their ability to withstand future shocks.¹³

Co-variate Shocks: Similar shocks that occur across multiple households or on a broader scale.

Idiosyncratic Shocks: Selective shocks that only affect some livelihood groups, households, or individuals in a community, such as an illness or death within a household.

Resilience: The ability of people, households, communities, systems, and countries to reduce, mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth.¹⁴

Risks: The potential for an uncertain event or trend to have adverse consequences on lives; livelihoods; health; property; ecosystems and species; economic, social and cultural assets; service provision (including environmental services); and infrastructure. Notably, risk exposure, particularly weather risk exposure, impacts behavior and livelihood decisions ex ante, regardless of whether the shock actually occurs.

Stress(es): A longer-term pressure that undermines current or future vulnerability and well-being (e.g., population pressure, environmental degradation, etc.).¹⁵

Designing Interventions

As outlined above, designing interventions to strengthen resilience is critical to sustainably reducing poverty, hunger, and malnutrition in the complex risk environments in which Feed the Future is being implemented. This section discusses various sources of resilience based on available evidence, as well as approaches and important considerations for designing specific interventions aimed at strengthening them. The evidence shows that single interventions or sources of resilience alone are usually insufficient. As such, design teams should take a multi-sectoral view and consider sequencing, layering, and integrating multiple resilience approaches into a coherent package of risk management and adaptive strategies, tailored to the complex risk environment in which they would be implemented. Approaches must also take account of the heterogeneity within and between communities that inform the assets, resources, and strategies available to individuals and households, including differences between men and women.

The [Risk & Resilience Assessments Guidance Note](#) can help practitioners better understand the risk factors that influence resilience to shocks and stresses in a given context. Understanding these factors and current risk management practices is critical to developing and improving a theory for effecting change, on which resilience-building strategies can be based.

IR4 – Increased sustainable productivity, particularly through climate-smart approaches

In most rural communities, households depend on agriculture for their livelihoods and food security. Therefore, interventions that help households, communities, and countries assess and manage their respective agricultural risks and increase their productivity can have a direct impact on household and community absorptive and adaptive capacities for resilience. Such interventions must take into consideration the local agricultural systems, household and community production assets and goals, and access to agricultural value chains and markets. See the GFSS Technical Guidance on Sustainable Production (IR4) for more information.

IR5 – Improved proactive risk reduction, mitigation, and management

A critical aspect of strengthening resilience is improving and diversifying the assets, resources, and strategies that enable households, communities, systems, and governments to anticipate, reduce, mitigate, and manage potential and realized risks. Design teams should consider risks and risk management strategies at multiple scales (from individuals to communities, countries, and regions) and how they relate to one another in a comprehensive approach to risk management.

Early Warning, Early Action, and Preparedness – A key strategy for mitigating and managing risks is improving early warning information and preparedness and linking them to early action. When done well, early warning can protect lives and livelihoods by providing early actionable information to local communities, with broader benefits to national and regional economies.

Well-informed early action has also been shown to be cost-effective from a donor and host-government perspective by reducing future humanitarian liabilities. A 2013 study on Kenya, Ethiopia, Niger, Mozambique, and Bangladesh estimates the cost-benefit of actions in response to early warnings to be between \$2.3 and \$13.2 per \$1 spent.¹⁶

For early warning to be effective it must be linked to institutionalized early action and preparedness.¹⁷

Examples being implemented by governments with the support of donors include the establishment of shock contingency plans and funding and shock responsive social protection, as discussed in more detail elsewhere in this guide.¹⁸ Another innovative means of enabling early action is forecast-based financing which uses probabilistic forecasts to trigger financing to mitigate potential impacts from weather-related hazards.¹⁹

Shock Responsive Programming - Shocks, (e.g., hydrometeorological hazards, economic, and political shocks) are often perennial features of the landscapes in which GFSS works. It is possible, and often highly probable, that at least one shock will hit during a typical five-year project implementation timeframe. This reality demands a flexible, adaptive management approach to GFSS programs that plans for and allows for quick pivots in the midst of shocks or even non-emergency situations that impact development objectives to respond quickly and effectively at the appropriate scale. For example, a livestock value chain program in Ethiopia ramped up loans to livestock traders to facilitate commercial destocking to convert vulnerable assets to cash during the 2016 drought. USAID/OAA and the Center for Resilience have developed guidance on *Approaches and Tools to Shock Responsive Programming and Adaptive Mechanism* to help project design teams understand the full range of options available for shock response during design and implementation.

→ *Implementation Guidance*: Operating at multiple scales, early warning systems typically include the following components: 1) hazard data and forecasts; 2) risk information; 3) communication and

dissemination of warnings; and 4) preparedness and early response to reduce potential impacts to lives and livelihoods. For an example of a tool used to support early warning, action, and preparedness see the [Famine Early Warning Systems Network](#) (FEWSNET).

Insurance and Risk Transfer – Insurance is another means of managing risk and allows individuals, households, firms, and even national governments to transfer risk to a public or private sector insurance provider. While premiums offered by private sector insurance companies should be actuarially fair, the premiums for poor or vulnerable households are often subsidized by the government or donors. Insurance not only allows improved shock coping, but it can also help to address risk aversion where it is a constraint to commercialization, investment, or market efficiency. There are many types of insurance products. For example, *index insurance* pays out when an index (such as a drought measure) is triggered, regardless of whether actual losses occurred.²⁰ Index insurance is often cheaper to implement than *indemnity insurance*, which pays out for actual asset losses, particularly in rural settings in the developing world where tracking actual losses is costly and extremely difficult. Index insurance also avoids moral hazard concerns since actual losses due to neglect or poor livelihood practices are not covered. However, it does entail basis risk, meaning the possibility that an individual will suffer losses and not receive a payout if the index is not triggered.

At the national scale, *sovereign risk insurance* provides governments with a means of financing humanitarian responses in the event of a large-scale natural disaster. Examples include the [African Risk Capacity](#),²¹ the [Caribbean Catastrophe Risk Insurance Facility](#), and the World Bank’s [Development Policy Loan with a Catastrophe Deferred Drawdown Option](#).

→ *Implementation Guidance*: Index insurance, while a potentially effective risk mitigating option, is incredibly complex to implement effectively. Those interested in implementing index insurance should review the World Bank’s [Weather Index Insurance for Agriculture: Guidance for Development Practitioners](#) and consult more recent research carried out by the [Index Insurance Innovation Initiative](#) (I4). Design teams may also want to consider integrating other types of insurance products in Feed the Future activities. For example, other risks, such as human health risks, can be insured and may be critical to achieving Feed the Future’s goals where burden of disease undermines resilience, food security, and nutritional well-being.

Not all risks are easily managed with insurance, particularly in countries where information is costly to collect and enforcement mechanisms may be weak. For example, it may not be feasible to insure against crop and livestock diseases. Similarly, market risks, such as price risk and contract risk, are often best managed through national policy. Further, while individuals, communities, and countries experience multiple risks many insurance mechanisms only address individual hazards. These constraints underscore the need to combine financial instruments for risk transfer with other risk management strategies and contingency planning. The [R4 Resilience Initiative](#) is one example of a multi-pronged approach, supporting asset creation, insurance to facilitate risk transfer, livelihoods diversification and access to microcredit to facilitate prudent risk taking, and encouraging savings to help households better manage risks and shocks.

Financial Services and Financial Inclusion – Other financial services, such as access to local certified banking institutions, lower interest credit via microfinance—including Village Savings and Loan Associations (VSLAs)—and remittances²² are a critical source of resilience for poor and chronically vulnerable households.^{23,24} This holds true across a wide variety of contexts, both in relation to enabling sustainable poverty escapes and protecting household food security in the face of acute crises such as droughts.^{25,26}

→ *Implementation Guidance*: Commercial credit often retracts during shock events as it did in Ethiopia

during the 2016 El Niño drought, presenting a significant challenge. A potential area of intervention is *subsidizing the risk of extending credit* during such events, although programs must carefully consider how financial interventions are differentially accessible to and affect women, men, youth, marginalized groups, the landless, and extreme poor. Programs themselves may also incorporate emergency loans,²⁷ particularly for idiosyncratic shocks that impact an individual household. The GFSS Technical Guidance on Finance: Unlocking Private Capital provides additional advice on using finance to increase food security and resilience by crowding in private capital flows.

Asset Accumulation, Protection, and Management – Asset accumulation, protection, and management within the drought cycle and before and during other shocks is critical to avoid the downward spiral of divestment described above. This includes implementing good agricultural practices which reduce risks, including the critical role of vaccination and animal health and crop protection services in protecting the asset base. The number and type of assets a household has is a strong predictor of household resilience across contexts, underscoring that *asset accumulation* (and avoiding divestment) can and does serve as a buffer against shocks.²⁸ Investment and improvements to communal assets can also contribute to risk reduction and management.

Asset diversification as a strategy includes maintaining a balance between productive and nonproductive assets that can be liquidated to meet immediate needs. Livestock are a particularly important asset in this regard, both because they are vulnerable to market and climate risks, but also mobile and resilient in the face of these risks. In dryland ecosystems, well-managed pastoral and agro-pastoral livelihoods systems are very resilient and more sustainable than crop cultivation. Drylands cropping in these ecosystems offers a complementary livelihood strategy that capitalizes on better rainfall years, reduces the need for livestock sales, and ensures herd growth. The relationship is symbiotic as livestock sales also underwrite crop failure in poor rainfall years.²⁹

→ *Implementation Guidance*: In addition to insurance, emergency credit, savings, and safety nets (discussed below) protect productive assets from being sold during shocks. Productive asset management is crucial to preventing households from falling into asset-based poverty traps.³⁰ Design teams must understand the different coping strategies employed by men, women, youth, marginalized groups, and the landless poor in order to design interventions that improve asset accumulation, protection, and management. Women and other marginalized groups typically have less ownership and control over assets and resources; empowering these groups can contribute to absorptive and adaptive capacities. In pastoral communities, expanding market opportunities and encouraging the conversion of some animals to cash savings or other assets may reduce the risk of crisis de-stocking during shocks. Market interventions (e.g., commercial de-stocking) and improvements to the natural resource base may also contribute to resilience in certain contexts.³¹

Social Capital (and Social Networks) – A household's social capital, or ability to lean on others during times of need, is a powerful predictor of household resilience.³² This includes *bonding social capital* or the horizontal links between family members, close friends, and neighbors; *bridging social capital* that connects communities and groups; and *linking social capital* that connects social networks with some form of authority. In all cases, social capital consists of reciprocal obligation networks in which members allow others to lean on them in exchange for the ability to lean on others during times of need. Despite its importance as a source of resilience, few projects have focused on explicitly strengthening social capital.

→ *Implementation Guidance*: A variety of interventions can strengthen social capital, which may vary for women, men, youth, and marginalized groups. Programming approaches that intentionally link disparate groups in positive ways are more likely to bolster social capital. Agricultural cooperatives and VSLAs, for example, provide fertile ground for strengthening bridging social capital when they link previously disparate groups in a common enterprise. The notion of both vertical and horizontal linkages within value

chains is also a form of social capital in which trust and resource pooling are used in order to accomplish common goals.³³ Moreover, social ties established for business purposes can also be leveraged for social support and vice versa.

IR6 – Improved adaptation to and recovery from shocks and stresses

Another critical aspect of strengthening resilience is improving the resources, strategies, and policy frameworks that enable people, households, communities, and governments to adapt to and recover from shocks and stresses in a changing risk environment.

Access to and Use of Risk Information – Adapting and recovering from shocks and stresses requires individuals, households, communities, and governments to make proactive and informed choices based on an understanding of medium to longer-term changes and trends. Some of these trends are well understood (e.g. demographic changes, increasing urbanization, and environmental degradation) while with others there may be considerable uncertainty (e.g., changing rainfall patterns, conflict dynamics). To design programs and policy interventions that strengthen resilience, design teams must understand how these risks interact with and affect different members of the community, including women, men, and youth.³⁴

Understanding information supply and user demand as well as the timeframes for decision-making are equally important. For example, the near to medium term is of far greater concern to farmers in places like the Sahel where they are faced with the immediate challenge of adapting to a complex and changing risk environment in which the impact of climate variability is exacerbated by demographic trends, environmental degradation, urbanization, conflict, and other shocks and stresses.

Improving the quality of, access to, and use of critical information (e.g., weather and climate forecasts, market data) can help stakeholders make informed decisions about how to better manage risks in both the near and longer-term. Often the quality or timing of this information is ineffective in developing countries, hampered by lack of observational data, resources, and human capacity as well as poor systems and record keeping. Further, information that does exist may not be reaching the people who need it for decision-making, may be poorly timed, or may be in a format that is not easy to use.

→ *Implementation Guidance*: Design teams can use a risk and resilience assessment³⁵ to develop a detailed understanding of the key trends important for resilience, including how and what kind of information individuals, households, communities, and governments access and use for decision-making. They can also use participatory and experiential learning approaches to better understand how individuals process risk information and make individual and collective decisions.³⁶ Capacity building efforts can improve the ability of stakeholders to access and use information. They can also be targeted at improving the capacity of the individuals and institutions that collect and provide information.

Ecosystem and Natural Resource Management – Protecting ecosystems and improving natural resource management (NRM) are critical for reducing agricultural and other risks, as well as managing, adapting to, and recovering from shocks and stresses. In many developing countries, the poor are more dependent on a natural resource base and ecosystem services (e.g., provisioning of food and clean water) that are becoming increasingly degraded and under pressure from a variety of threats (e.g., poor water or land use practices, increasing soil erosion, overgrazing, deforestation, over-fishing). Degradation and misuse of these resources can negatively affect economic growth and livelihood options. Design teams must understand the connections between the natural resource base and ecosystem services and the well-being of communities within these landscapes to design interventions that strengthen resilience to shocks and stresses. It is also important to identify the institutions and interests needed to devise sound management plans for these resources and build the capacity and governance structures to implement these plans in a transparent and accountable manner.

→ *Implementation Guidance*: Restoring degraded lands and water and promoting sustainable management practices can increase productivity and strengthen resilience.³⁷ When integrating NRM approaches into project designs, teams should consider potential entry points at multiple scales and the need to leverage complementary funding streams. For example, managing rainfall at watershed scales has been shown to help recharge water tables and has the potential to reduce the risks from floods, soil loss, and the disruption of water flows that are necessary for productivity and food security. At the farm-level, strategies such as farmer-managed natural regeneration (FMNR), water harvesting for soil fertility restoration, and rangeland restoration can all help restore degraded lands and serve as sources of resilience and improve agricultural production. [USAID's Nature, Wealth, and Power 2.0: Leveraging Natural and Social Capital for Resilient Development](#) provides further discussion of key principles and actions for safeguarding, restoring, and increasing the productivity of natural resources.

Diversifying Livelihood Risk In and Beyond Agriculture – Diversifying livelihood risk is a critical adaptive strategy and source of resilience.³⁸ Three main adaptive pathways exist:

- *stepping up* within agriculture and buffering risk through agricultural diversification, increasing agricultural trade and income, and increasing the ability to build savings and/or buy insurance
- *stepping partially out* of agriculture to engage in livelihoods that have a different risk profile as a complement to agriculture-based livelihoods
- *moving out* of agriculture entirely and into livelihoods that have a different risk profile

One strategy for agricultural diversification is *crop (or herd) diversification*, by which people cultivate multiple crops to reduce the risk of crop production loss or its value due to adverse weather, pest and disease attacks, or unfavorable market conditions for any one crop.³⁹ This may entail strategies such as raising livestock or other animals in addition to crop cultivation, crop rotation over multiple seasons, or a mixed/intercropping system in the same season. However, field programs should be careful to avoid placing additional burdens on households, particularly women, when promoting on-farm diversification and also avoid pushing households into less viable or productive crops. Other strategies include *diversifying within the agriculture sector, both on and off farm*. The former includes cash or niche crops, livestock, aquaculture, apiculture, basic farm level processing or engaging in opportunities for aggregation. The latter includes engaging in service provision and value addition elsewhere along agricultural value chains.⁴⁰ Many poor farmers will likely need increased access to resources such as agricultural inputs for more climate tolerant crops. Many are also risk averse and need to see the benefits of these strategies before making a strategic choice to engage or invest in a particular strategy. . This is particularly true for women.

Stepping out or moving out of agriculture and into off-farm, non-agricultural livelihoods with lower or less direct exposure to climate risks can significantly reduce household and community livelihood risk.⁴¹ Households engage in a range of strategies in this regard. One strategy is engaging in microenterprise (as a source of self-employment) or small and medium sized enterprise (SME) outside of the agriculture sector, noting that these enterprises are indirectly exposed to climate risks to the extent the local economy (and local demand) is dependent on agriculture. Seeking formal or informal employment in rural towns and hubs is another strategy for those without the assets, resources, or aspiration to engage in small enterprise. Still another strategy is migrating for employment or other opportunities elsewhere, including to secondary cities, capitals, and other countries.⁴² *Migration* entails significant risk, particularly for women and youth. If successful, however, it can also afford a critical source of resilience for the migrant, as well as (through remittances) for those that remain at home.⁴³ This is particularly salient for people and places that experience recurrent, large-scale covariate shocks that impact all livelihoods in a geographic area. The scale of internal and external migration globally also makes clear that it is an adaptation that is already well underway.

→ *Implementation Guidance*: Additional GFSS technical guidance documents related to sustainable production (IR4) and livelihoods and facilitating multiple pathways out of poverty are under development.

Social Protection (Safety Nets) – There is an increasing recognition among governments and donors of the centrality of safety nets to enabling poor and chronically vulnerable households to both escape and remain out of poverty and chronic vulnerability.^{44,45} As with insurance and microfinance, regular and predictable cash and food transfers smooth household consumption and encourage otherwise risk averse households to engage in higher risk, higher reward livelihoods and invest more to increase productivity. These effects extend beyond direct beneficiaries where social protection systems guarantee basic sustenance for all. Ethiopia provides lessons on how investments in expanding economic opportunities can accelerate the pace at which those who aspire to graduate out of safety net programs are able to do so over time.⁴⁶ Social protection and safety net programs designed to be adaptive or “shock responsive” also make critical contributions toward strengthening the resilience of households and systems through their contributions to absorptive capacity.⁴⁷

→ *Implementation Guidance*: Pre-targeting of households and re-targeting after a shock occurs are important design principles for shock responsive social protection programs.⁴⁸ Regular transfers help build absorptive capacities.⁴⁹

Aspiration and Empowerment – In addition to more tangible factors, household and individual aspirations, expectations, and motivations all influence resilience outcomes.^{50,51} Evidence stresses the importance of including psychosocial factors in theories of change and points to three in particular (risk perception, self-efficacy, and aspirations) that influence adaptive capacity.⁵² Research at the household level has shown an inverse relationship between confidence in one’s ability to manage future shocks and stresses and the likelihood of engaging in negative coping strategies.⁵³

Gender-based inequalities and social exclusion also undermine resilience at community and household levels.⁵⁴ Men, women, children, people with disabilities, and other marginalized groups are not all vulnerable to shocks and stresses in the same way and often mobilize different capacities for building resilience. To foster social inclusion and strengthen the resilience of all groups, design teams must understand how different groups experience shocks and stresses and how this impacts the system as a whole. For example, a recent assessment of USAID’s Resilience in the Sahel Enhanced (RISE) project highlighted the positive role of caretaker aspirations and sense of empowerment in households with a lower incidence of child wasting.⁵⁵ Similarly, research conducted in Bangladesh found that women’s empowerment was the strongest predictor of whether a household sustainably escaped poverty or escaped but fell back into poverty.⁵⁶

→ *Implementation Guidance*: The Bangladesh NGO BRAC’s [PROPEL toolkit](#) provides a step-by-step approach to designing a graduation program intentionally aimed at building aspiration, empowerment, and social capital.⁵⁷ Targeting empowerment interventions to women through the frame of addressing child malnutrition is one potential entry point for strengthening resilience and food security. The [Intervention Guide for the Women’s Empowerment in Agriculture Index \(WEAI\)](#) provides strategies and real examples of technical approaches to address decision-making in agricultural production, access to land, access to finance, control over use of income and expenditures, participation and leadership in groups, and time dedicated to paid and unpaid labor. In addition the GFSS Technical Guidance for Gender provides further information on principles for integrating gender into agriculture, nutrition, and resilience programming.

Human Capital – In the short-term, access to credit and insurance helps households mitigate and manage shocks. To ensure long-term resilience, investments in nutrition, health, and education are all necessary to

decrease the intergenerational transmission of poverty, allowing future generations to access a variety of livelihood strategies and increasing economic growth. Prior generation investment in education, as measured by current generation educational attainment, is a powerful predictor of a household's ability to sustain and even improve well-being in the face of recurrent shocks and stresses across a wide range of contexts.⁵⁸

→ *Implementation Guidance*: Programs should include activities that target improved literacy, numeracy, and job-readiness skills and consider the potential need to leverage other resources and augment with other sectoral programs such as health and education. For specific guidance on nutrition programming, see GFSS Technical Guidance for A Well-Nourished Population. In addition to improving nutrition, health interventions should focus on 1) water supply, sanitation, and hygiene;⁵⁹ and 2) improving availability of and access to health facilities and vaccinations.⁶⁰

Additional Tools and Resources

Feed the Future Innovation Lab for Assets and Market Access Project: [Index Insurance Innovation Initiative](#) (I4)

USAID (2016) [The Horn of Africa Network \(HoRN\) Regional Resilience Framework 2.0](#)

World Bank (2011) [Weather Index Insurance for Agriculture: Guidance for Development Practitioners](#)

World Bank (2016) [Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters](#).

For further assistance related to Objective 2 technical guidance, contact ffguidance@usaid.gov.

¹ Costs to national economies are captured in World Bank Post Disaster Needs Assessments and are available for a wide variety of countries. See <https://www.gfdrr.org/post-disaster-needs-assessments>

² ACIDI-VOCA (2016). Resilience and sustained escapes from poverty: Highlights from research in Bangladesh, Ethiopia and Uganda. (2016). See <https://www.microlinks.org/library/resilience-and-sustained-escapes-poverty-highlights-research-bangladesh-ethiopia-and-uganda>

³ World Bank. (2015). Poverty in Ethiopia down 33% since 2000. See <http://www.worldbank.org/en/news/press-release/2015/01/20/poverty-ethiopia-down-33-percent>

⁴ Shepherd, A., et al. (2014). The chronic poverty report 2014-2015: The road to zero extreme poverty. <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8834.pdf>

⁵ Cabot Venton, C., et al. (2012). The economics of early response and resilience: Lessons from Kenya. See https://assets.publishing.service.gov.uk/media/57a08a63e5274a27b200058f/61114_Kenya_Report.pdf

⁶ USAID. (2017). Resilience in the face of drought in Ethiopia: New evidence. See <https://www.usaid.gov/sites/default/files/documents/1867/USAID-Fact-Sheet-Resilience-Evidence-April-2017.pdf>.

⁷ USAID. (2016). Resilience at USAID 2016 Progress Report. See <https://www.usaid.gov/documents/1867/resilience-usaid-2016-progress-report>

⁸ Frankenberger et al. (2013). Feed the Future Learning Agenda Literature Review: Improving the resilience of vulnerable populations. See [https://agrilinks.org/sites/default/files/resource/files/Feed the Future Learning Agenda Resilience Literature Review July 20 13.pdf](https://agrilinks.org/sites/default/files/resource/files/Feed%20the%20Future%20Learning%20Agenda%20Resilience%20Literature%20Review%20July%2013.pdf).

⁹ Frankenberger et al. (2012b). Enhancing resilience to food security shocks in Africa. Discussion paper. See http://www.fsnnetwork.org/sites/default/files/discussion_paper_usaid_dfid_wb_nov_8_2012.pdf

¹⁰ Frankenberger et al. (2013). Feed the Future Learning Agenda Literature Review: Improving the resilience of vulnerable populations. See [https://agrilinks.org/sites/default/files/resource/files/Feed the Future Learning Agenda Resilience Literature Review July 20 13.pdf](https://agrilinks.org/sites/default/files/resource/files/Feed%20the%20Future%20Learning%20Agenda%20Resilience%20Literature%20Review%20July%2013.pdf).

¹¹ Frankenberger et al. (2013). Feed the Future Learning Agenda Literature Review: Improving the resilience of vulnerable populations. See [https://agrilinks.org/sites/default/files/resource/files/Feed the Future Learning Agenda Resilience Literature Review July 20 13.pdf](https://agrilinks.org/sites/default/files/resource/files/Feed%20the%20Future%20Learning%20Agenda%20Resilience%20Literature%20Review%20July%2013.pdf).

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- ¹² Bene et al. (2012). Resilience: New Utopia or New Tyranny? Reflection about the Potentials and Limits of the Concept of Resilience in Relation to Vulnerability Reduction Programmes . See <http://onlinelibrary.wiley.com/doi/10.1111/j.2040-0209.2012.00405.x/pdf>.
- ¹³ Global Food Security Strategy (2016). See <https://www.usaid.gov/what-we-do/agriculture-and-food-security/us-government-global-food-security-strategy>.
- ¹⁴ USAID. Building resilience to recurrent crisis: USAID Policy and Program Guidance. See <https://www.usaid.gov/sites/default/files/documents/1866/Policy%20%26%20Program%20Guidance%20-%20Building%20Resilience%20to%20Recurrent%20Crisis%20Dec%202012.pdf>
- ¹⁵ Global Food Security Strategy (2016). See <https://www.usaid.gov/what-we-do/agriculture-and-food-security/us-government-global-food-security-strategy>.
- ¹⁶ DfID (2013). The economics of early response and resilience: Summary of Findings. See https://assets.publishing.service.gov.uk/media/57a08a0bed915d622c000521/61114_Summary_of_Findings_Final_July_22.pdf
- ¹⁷ See Chatam House “*Transitioning Early Warning into Early Action*” project and related publications at <https://www.chathamhouse.org/about/structure/eeer-department/translating-early-warning-early-action-project>
- ¹⁸ See the KRDP-ASAL Drought Contingency Fund Project at <http://kenya.droughtresilience.info/project/krdp-asal-drought-contingency-fund-project>
- ¹⁹ See Red Cross/Red Crescent Forecast-Based Financing at <http://www.climatecentre.org/programmes-engagement/forecast-based-financing>
- ²⁰ See Index Insurance innovation initiative (I4) at <https://basis.ucdavis.edu/index-insurance-innovation-initiative-i4>
- ²¹ Supported by USAID and Feed the Future
- ²² A potential area of intervention for development actors is remittance and related ICT solutions that improve confidence and efficiency and lower costs. Remittances to Africa in the form of investment and social support now exceed international humanitarian and development assistance. See: <https://unu.edu/publications/articles/migration-remittances-and-resilience-in-africa.html#info>
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- ²⁴ See page 137 of Hallegatte, S. et al. (2017). Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters. Climate Change and Development; <https://openknowledge.worldbank.org/handle/10986/25335>
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