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Agency Learning Priority: Resilience to Shocks

Rapid Literature Review

What systems-level approaches are effective at strengthening the resilience of households, communities, and enterprises?

November 2023

Produced at the request of the U.S. Agency for International Development (USAID), this rapid literature review is part of a series contributing toward the 2022–2026 Agency Learning Agenda. In response to critical evidence needs, this series seeks to improve awareness and sharing of the latest available evidence linked to the Agency’s highest policy priorities through a review and synthesis of select studies published from 2018–2022.

CONTRACT INFORMATION

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TABLE OF CONTENTS

- I. INTRODUCTION..... 5**
 - Approaches to Resilience..... 5
- II. FINDINGS.....7**
 - Social Protection Systems.....7
 - Social Assistance*..... 8
 - Financial Systems..... 13
 - Savings and Credit*..... 13
 - Social Insurance*..... 14
 - Governance and Political Systems..... 17
 - Health Systems..... 19
 - WASH Systems..... 19
 - Market Systems..... 20
 - Connectivity*..... 21
 - Diversity*..... 22
 - Power Dynamics*..... 23
 - Information Systems..... 23
 - Water Management*..... 24
 - Disaster Risk Reduction*..... 24
 - Food Systems..... 25
- III. CONCLUSION..... 26**
- BIBLIOGRAPHY..... 28**
- ANNEX A. METHODOLOGY AND SEARCH TERMS..... 32**

ACRONYMS

3ie	International Initiative for Impact Evaluation
AEA	American Economic Association
DNP	National Planning Department
HSNP	Kenya's Hunger Safety Net Programme
IN-SCT	Integrated Nutrition Social Cash Transfer
JSTOR	Journal Storage
MSR	Market systems resilience
PBS	Poverty Benefit Scheme
PRIME	Pastoralist Areas Resilience Improvement and Market Expansion
PSNP	Ethiopia's Productive Safety Net Programme
SPIR DFSA	Strengthen PSNP4 Institutions and Resilience Development Food Security Activity
USAID	U.S. Agency for International Development
WASH	Water, sanitation, and hygiene

I. INTRODUCTION

In its *2022 Resilience Policy Revision*, the U.S. Agency for International Development (USAID) defines resilience as “the ability of people, households, communities, countries, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth.” It sets forth seven lines of effort to mobilize Agency action, including strengthening systems for resilience and resilient systems. The Agency’s Resilience Policy Revision also defines shocks and stresses, explains resilience capacities, and connects resilience to development and humanitarian objectives.

This rapid literature review was developed in collaboration with the USAID Center for Resilience and the Bureau for Policy, Learning, and Resource Management (formerly the Bureau for Policy, Planning, and Learning) points of contact (see Annex A for more information on the review’s search methods). It seeks to contribute evidence to answer the question: **What systems-level approaches are effective at strengthening the resilience of households, communities, and enterprises?** The review includes evidence from 2018–2022 and contributes toward the 2022–2026 Agency Learning Agenda question on resilience to shocks: *How can USAID strengthen household, community, and country resilience to climate, conflict, economic, and health shocks, such as COVID-19 and other global pandemic threats?*

The primary intended users of this review include those designing and implementing development and humanitarian assistance programming focused on strengthening local, national, and international systems that enable households, communities, and enterprises to manage and adapt to adversity and change without compromising their well-being (USAID 2023). First, this review briefly **explains the international development and humanitarian assistance sector’s focus on resilience and defines systems-level approaches to resilience.** The **findings are organized by the systems that have been effective in building household, community, and enterprise resilience.** The literature focuses on approaches that have worked and can be adapted to improve effectiveness and why some have not worked in some contexts.

Approaches to Resilience

Systems for resilience play a crucial role in 1) reducing exposure to the risk of shocks and stresses (for example climate change adaptation and mitigation) or 2) strengthening absorptive, adaptive, and transformative resilience capacities. A system refers to interconnected sets of actors, including governments, civil society, the private sector, academia, individual citizens, and others, that collectively realize a particular human well-being outcome or a set of outcomes (USAID 2023). These systems are essential for managing risks and responding to shocks and stresses by mitigating impact and speeding recovery.

At the same time, the systems themselves must be resilient to shocks and stresses. USAID's Resilience Policy explains the importance and sources of resilient systems.

“

“It is important to examine and analyze systems in terms of function, capacity, responsiveness, and inclusiveness. Especially in times of a major shock, such as a prolonged drought, pandemic outbreak, or conflict, the resilience of systems themselves may be strained. Systems resilience can be understood as the ability of a system to respond to disturbance in a way that allows consistency and sustainability, or that leads to improvement in the system's functioning. Social-ecological systems research finds that sources of resilience for a system include: maintaining diversity and redundancy, optimizing connectivity, managing slow variables and feedback, fostering complex adaptive systems thinking, encouraging learning, broadening participation, and promoting polycentric governance”

—USAID 2022 Resilience Policy; Vroegindewey et al. 2019

Strong systems are essential for resilience through improved sustainability, service delivery, and local capacity. Strong systems can sustainably support people during shocks and stresses, reducing the need for humanitarian assistance, improving well-being, and offering long-term support to those impacted. Strengthening local systems can help create lasting change beyond relatively short-term project and activity cycles (USAID 2023).

II. FINDINGS

This section presents recent evidence on enabling contexts and the impact of systems that strengthen the resilience capacities of households, communities, and enterprises.

The following systems are broadly recognized in resilience literature and provide this review’s structure:

- **Social Protection Systems**
- **Financial Systems**
- **Governance and Political Systems**
- **Health Systems**
- **Water, Sanitation, and Hygiene (WASH) Systems**
- **Market Systems**
- **Information Systems**
- **Food Systems**

This review is informed by USAID’s 2022 Resilience Policy, which highlights the importance of systems in building resilient communities. The review examines the current state of evidence around the function, capacity, responsiveness, and inclusiveness of systems; and the sources of resilience within those systems, such as maintaining diversity and redundancy, optimizing connectivity, managing slow variables and feedback, fostering complex adaptive systems thinking, encouraging learning, broadening participation, and promoting polycentric governance.



Social Protection Systems

According to USAID’s 2022 Resilience Policy, social protection systems are “a set of policies and programs that aim to reduce poverty and inequity, ensure adequate living standards in the face of shocks and life changes, and build human and social capital-improving opportunities for better employment and livelihoods throughout people’s life cycle, positively impacting people from birth through old age.” These systems provide the structure for people in need to receive assistance, particularly during crises (USAID 2022). Experts widely recognize that broad social protection mechanisms are crucial for building the capacity to withstand shocks. Social protection encompasses various initiatives that safeguard vulnerable

populations from livelihood risks, including wealth transfer mechanisms, (i.e., social assistance (Dale 2018). Overall findings from the recent literature include:

- The adapting functionality and capacity of multi-year cash transfer programs to changing contexts in Ethiopia, Niger, and Kenya demonstrate social safety net system resilience (Patnaik 2021; Prifti et al. 2021; Dietrich and Schmerzeck 2019).
- Meanwhile, shock-responsive and inclusive cash transfer interventions in Fiji, Bolivia, and Colombia's safety net systems (after Tropical Cyclone Winston and the COVID-19 outbreak) provide evidence that these interventions can strengthen social protection system resilience (Ivaschenko et al. 2020; Mansur et al. 2018; Bottan et al. 2021; Gallego et al. 2021).

Social Assistance

Cash and asset transfer social assistance interventions have been used in a variety of contexts to improve the ability of households to support themselves during shocks and stresses. They can also improve social protection system resilience. **The adapting functionality and capacity of multi-year cash transfer programs to changing contexts in Ethiopia, Niger, and Kenya demonstrate social safety net system resilience.** Ethiopia's Productive Safety Net Programme (PSNP) aims to enhance livelihoods and build resilience against shocks. Over its different phases, PSNP has continuously adapted how it provides cash or food assistance based on the predictable food needs of chronically food-insecure households in rural areas. In its third phase (2010–2014), the program expanded its coverage, enhanced the timeliness of transfers, and shifted from food to cash transfers to provide participants with greater flexibility in meeting their needs (Patnaik 2021). Severe droughts in 2011 and 2015 had a significant negative impact on food security in Ethiopia. Limited income, thin markets, and poor cultivation hindered households from improving dietary diversity. However, findings from Patnaik's impact evaluation indicate households experienced a significant improvement in dietary diversity when cash transfers complemented agricultural extension services (including providing farmers with guidance and training on various aspects such as improved seeds, fertilizers, soil conservation, crop protection, irrigation, and farm management practices). **The integration of agricultural extension services with cash transfers aligned offerings to program participant needs. The system was able to respond resiliently to changing contexts and needs by managing slow variables and feedback, maintaining diversity in its offerings, and fostering adaptive systems thinking to address underlying causes of vulnerability** (Patnaik 2021).

During PSNP's fourth phase (2015–2020), the Integrated Nutrition Social Cash Transfer (IN-SCT) pilot project added a time-limited and intensive training package for cash transfer recipients on technical livelihood themes. The findings demonstrated that supporting growth pathways (such as farming, off-farm business, and formal employment), social networks, and market systems development to the existing

safety net led to higher levels of food insecure households sustainably graduating from chronic poverty (Prifti et al. 2021). The Government of Ethiopia embedded IN-SCT within PSNP, adding complementary interventions to achieve the shared goal of enhancing resilience, reducing poverty, and improving nutrition outcomes. It aimed to address the limitations of cash transfer programs with nutrition-sensitive interventions, improved access to social services, and skills training for agriculture, all under the umbrella of the PSNP. The IN-SCT pilot scaled up the original project by targeting new cash recipients and increasing access of social and health services to all recipients. The program provided food-insecure households with cash transfers through different schemes based on the household's labor capacity and composition. Compliance with soft conditionalities and access to social and health services vary depending on the scheme. The Permanent Direct Support scheme offered 12-month transfers to households without able-bodied adults. The Temporary Direct Support scheme supported pregnant and lactating women or caregivers of children under five. Meanwhile, the Public Works scheme provided six-month transfers to households with able-bodied adults, conditional on the recipient's participation in integrated public works programs, such as a community-based watershed development project focused on conservation measures and community asset development (such as water infrastructure). The Prifti et al. evaluation found that the innovations improved household-level resilience (using household productivity outcomes as a proxy, including crop and livestock production, labor supply, non-farm businesses, and input utilization) (Prifti et al. 2021). **The project innovations expanded the functionality of PSNP's fourth phase by broadening participation, integrating more diverse interventions, strengthening existing technical training and support, and promoting collaboration between different sectors. Further, Prifti et al. concludes that the program adapted to create a system where social protection (through cash transfers) and disaster risk management services (through climate-smart public works) are integrated and delivered together.**

Dietrich and Schmerzeck studied the differential impacts of Kenya's Hunger Safety Net Programme (HSNP) during the 2011 drought, which coincided with this unconditional government cash transfer program's pilot phase (2010–2012). They found the program had significant positive impacts on nutrition for drought-affected households in less isolated communities, although program impacts disappeared in communities with more isolated food markets. They measured exposure to the drought using satellite imagery and approximated the isolation of local food markets using price differences between community and wholesale maize prices (Dietrich and Schmerzeck 2019). The program was associated with a significant increase in calorie availability and the number of satisfied nutrient requirements (of about 200 calories per adult equivalent and 0.5 additional nutrient requirements satisfied out of 7 nutrients considered), at a medium market isolation score of 0.3 (where market isolation levels range from 0.1 to 0.6, and the latter indicates highly isolated communities). However, these positive impacts disappeared in more isolated communities unless there were normal (i.e., pre-climatic disaster level)

vegetation conditions. Additionally, Dietrich and Schmerzeck observed larger impacts on the value of purchased foods in isolated communities, indicating that households in more isolated areas spend more in markets to get less in terms of calories and nutrients. The findings suggest that cash transfers can be effective in reducing malnutrition, but only if there is appropriate market infrastructure in place. This is particularly relevant given the increasing frequency of extreme weather events due to climate change, which affect local markets. **The current version of the HSNP program adopted a flexible scale-up scheme based on vegetation conditions to improve its effects in more isolated communities after weather shocks. Incorporating this design has shown positive impacts on food expenses, indicating improved functioning of the system** (Dietrich and Schmerzeck 2019).

Aizawa also analyzed HSNP in nine of Kenya's provinces (Turkana, Wajir, Mandera, Marsabit, Garissa, Tana River, Isiolo, and Samburu) to determine its contributions to reducing extreme poverty and improving food security, as part of the larger National Safety Nets Programme. Aizawa used food consumption data and relevant databases to calculate caloric intake and nutrient content, then assess the impacts on nutritional intake at 12 and 24 months after recipients received the cash transfer. Aizawa's findings indicate that households participating in HSNP increased their spending on food items (such as milk, sugar, and roots and tubers) and improved the intake of certain important nutrients (such as fat, vitamin B12, and calcium). However, the program did not significantly increase the overall amount of food consumed (Aizawa 2020; Dietrich and Schmerzeck 2019). **Based on his findings, Aizawa theorized that future programming combining this intervention with policies to improve the supply of affordable foods "would help reduce malnutrition caused by nutritional deficiency." This could contribute to optimizing connectivity between the social protection and market system, strengthening the social protection system's responsiveness to the lack of affordable foods. Moreover, Aizawa suggests that educating people about the importance of healthy eating habits would make HSNP more effective** (Aizawa 2020).

In Niger, Premand and Stoeffler conducted an impact evaluation of a flagship, government-run unconditional cash transfer program that delivered \$20 monthly to poor households in rural shock-prone areas. The government established this multi-year safety net (as opposed to short-term transfers) with the aim of helping households prepare for shocks. **98 percent of selected households received cash throughout the 24-month program, reflecting the system's high capacity to continuously support participants when shocks occur** (Premand and Stoeffler 2020). They analyzed household surveys with satellite data on rainfall and found that cash transfers improve household welfare (measured through consumption) and food security, particularly for households that have experienced external climatic shocks. The researchers also found that recipient households are more likely to join saving groups, are better at saving money, and can better handle shocks. **Premand**

and Stoeffler state that, compared to emergency relief, this program's capacity to provide predictable transfers over time made it more effective in supporting livelihoods.

Meanwhile, shock-responsive and inclusive cash transfer interventions in Fiji, Bolivia, and Colombia's safety net systems (after Tropical Cyclone Winston and the onset of COVID-19) provide evidence that these interventions can strengthen social protection system resilience. Ivaschenko et al. (2020) and Mansur et al. (2018) studied the Government of Fiji's social protection system as it became the "First Pacific Island country to channel post-disaster assistance through its existing social safety net programs" in the wake of Tropical Cyclone Winston in 2016 (Mansur et al. 2018). These researchers found that **cash transfers reached participants and improved household resilience, indicating the shock-responsiveness of the social protection system.** The cash transfer system worked by utilizing existing delivery systems and program participant databases, scaling up vertically to provide additional resources to the existing participants, and combining in-kind with cash transfers. **Leveraging Fiji's existing safety net system mechanisms (i.e., delivery through the electronic banking system) resulted in the government reaching households quickly and effectively in the post-disaster setting** (Mansur et al. 2018). Mansur et al. studied cash transfers distributed to the program participant households of Fiji's three core existing social protection programs, the Poverty Benefit Scheme (PBS), Social Pension Scheme, and the Care and Protection Scheme. The evaluation included a quantitative survey (with a sample size of 700 households) and a qualitative survey (with 100 interviews). Leveraging their advanced electronic banking system, which is already used for regular social welfare payments, 98 percent of the surveyed participants received their top-up payments through electronic means. The impact evaluation survey further revealed that 76 percent of households withdrew their top-up payments within the first month, indicating a swift recovery of the banking infrastructure in the research sites (Mansur et al. 2018).

Evidence from Fiji suggests that the effectiveness of cash transfers increases in the presence of a functioning local market. Further, providing a mix of immediate in-kind transfers in addition to cash transfers can improve the disaster response effort within existing social protection programs (Ivaschenko et al. 2020; Mansur et al. 2018). PBS recipients reported a substantial decrease in their ability to purchase essential goods and services from local markets, with market access plummeting from 83.9 percent to 37.4 percent right after the disaster.¹ The provision of in-kind humanitarian assistance (food rations, building materials, and temporary shelters) effectively provided immediate support to all affected households, playing a vital role in sustaining families until the markets could be restored. Market access was restored to nearly its pre-disaster level one

¹ Market access refers to the ability of households to reach local markets where goods and services are available. Disasters can potentially destroy not only the physical infrastructure within which markets function, but also the goods and services traded (Ivaschenko et al. 2020).

month after the cyclone. At this point, findings suggest the cash assistance enabled families to regain their purchasing power and expedite their recovery (Mansur et al. 2018). These findings suggest combining in-kind transfers with cash transfers strengthened the social protection system. Meanwhile, Ivaschenko et al. focused specifically on the cash transfers distributed through the PBS. Overall, the researchers found households that received cash transfers were significantly more likely to report recovery from different shocks. However, the effectiveness was found to be higher in areas where local markets were functioning effectively (Ivaschenko et al. 2020). This study also has implications for market systems resilience (see [Market Systems](#)).

In Bolivia, Bottan et al. (2021) found that broadening participation in the already-established noncontributory pension program during the COVID-19 pandemic allowed the country’s social safety net program to be shock-responsive. The pension program quickly achieved “positive impacts in line with the primary goals of a social safety net composed of an income-targeted cash transfer and an unemployment insurance program” during the economic crisis associated with COVID-19. Bottan et al. (2021) found that becoming eligible for the program during the crisis increased the probability that households had a week’s worth of stocked food by 25 percent and decreased the probability of going hungry by 40 percent. The social assistance program “quickly provided support to vulnerable sub-populations: low-income households, and middle-income households that experienced a business closure induced by the pandemic,” leading to positive impacts on household resilience and food security. The findings suggest noncontributory pensions can contribute to a robust social protection system that is responsive during times of crisis.

Colombia’s Ingreso Solidario, an unconditional cash transfer program, similarly contributed to shock responsiveness after COVID-19 by broadening participation and optimizing connectivity to existing systems and coordination efforts across actors. Gallego et al. (2021) found that the program helped poor and vulnerable households that did not benefit from pre-pandemic programs maintain income sources without discouraging them from participating in the labor market. The process of identifying eligible households for the program involved collaboration between the National Planning Department (DNP), other government branches, and private sector entities. The DNP utilized the existing Sisbén system, which gathers socioeconomic data and serves as the primary targeting tool for social programs in the country. The DNP also coordinated with the Banca de las Oportunidades program to identify potential participants, both those with and without existing bank accounts. Through this process, the program identified households who were not eligible for prior programs because their income-to-poverty ratio was a few hundredths above the cutoff. Gallego et al. found that food consumption increased among households severely affected by job disruptions during the pandemic, but not across beneficiaries as a whole. Additionally, the program significantly encouraged the opening of new bank accounts (leading to a 50 percent increase compared to the proportion of

non-eligible households opening an account) and increased their use for payments, which suggests it can have long-term benefits for financial inclusion. **These findings suggest that Ingreso Solidario strengthened the social protection system by including poor and vulnerable households that did not benefit from pre-pandemic programs and having sustainable effects on financial inclusion. In the future, Gallego recommends expanding access to savings, low-interest credit, and other financial services for households previously excluded from social protection and the financial system** (Gallego et al. 2021).

Financial Systems

Formal financial services include providing individuals and communities with access to savings, credit, and insurance products. Financial services contribute to household, community, enterprise, and system level resilience in several ways, including asset building, expedited recovery, resource mobility, lowered transaction costs, and inclusive participation. Formal financial services promote economic stability in the face of shocks and disasters (USAID 2018). Overall findings from the recent literature include:

- An impact evaluation of the USAID-funded Pastoralist Areas Resilience Improvement and Market Expansion (PRIME) activity discusses mixed evidence on the effectiveness of formal financial system interventions during severe and prolonged droughts (Smith and Frankenberger 2022).
- This literature review uncovered limited literature on systems-level savings and credit interventions.
- Financial services, such as index-based agricultural and livestock insurance,² may improve the functioning and responsiveness of social protection systems, and in turn build system resilience (Stoeffler et al. 2020; Matsuda et al. 2019; Belissa et al. 2019; Noritomo and Takahashi 2020).
- While still nascent, increasing the capacity of climate risk insurance markets to manage slow climate variables (by addressing slow onset risks like sea-level rise or desertification) and broaden participation (by increasing the coverage of assets and improving accessibility in existing schemes) can contribute to social protection system resilience (Dale 2018).

Savings and Credit

Removing barriers to savings accounts helps individuals smooth consumption during unexpected setbacks, while credit interventions that address financial market failures can also increase resilience among rural poor populations (USAID 2018). **An impact evaluation of the USAID PRIME activity found mixed evidence on the effectiveness of formal financial system interventions during severe and prolonged droughts.** Financial interventions under the project included establishing or

² Index-based insurance pays out benefits based on a predetermined index, such as rainfall level.

supporting existing Village Savings and Loans Associations, Rural Savings and Credit Cooperatives, and mobile banking services. Smith and Frankenberger's (2022) evaluation analyzed the project activities in different sectors (livestock productivity and competitiveness, pastoral natural resource management, financial services, and climate change adaptation), layered as a comprehensive package. Smith and Frankenberger found that 51.3 percent of households were resilient³ in the Jijiga Zone, while 29.9 percent were resilient in the Borena Zone. The researchers attributed this variation to differing shock exposure in these regions. While most of the households were not resilient due to shock-induced reductions in food security, PRIME's resilience-building interventions had a positive impact on household recovery rates⁴ that significantly mitigated the decline in food security. **The presence of Village Savings and Loans Associations, Rural Savings and Credit Cooperatives, and mobile banking services during droughts indicates the potential resilience of savings and credit systems to shocks, however, the study does not detail the systems' specific responses** (Smith and Frankenberger 2022). For more information on PRIME's livestock market system interventions (see [Market Systems](#) and [Information Systems](#)).

Social Insurance

Interventions that provide social insurance, such as agricultural, livestock, or climate risk insurance, can promote social protection system resilience. These insurance strategies focus on managing risks associated with policyholder livelihoods and mitigating weather-related shocks through payouts. Direct insurance schemes offer vulnerable individuals protection against climate-related disasters by reducing the need to rely on risk management strategies with setbacks, such as using savings or withdrawing children from school following shocks. Indirect insurance schemes, on the other hand, operate at the country level. Regional insurance pools cover post-event recovery efforts and provide technical support to identify and assess risks, integrate risk management into national planning, and develop contingency plans that protect the poor (Dale 2018).

Agricultural and Livestock Insurance: **Financial services such as index-based agricultural and livestock insurance⁵ may improve social protection systems' functioning and responsiveness, and in turn build system resilience.** By definition, index-based agricultural insurance allows systems to respond to climatic shocks by triggering payments to insured farmers. **When institutions that manage these insurance programs prioritize building trust with farmers, programs are associated with broader participation across economically diverse**

³ Realized resilience is an objective indicator measured using households' total change in food security between the baseline and endline surveys.

⁴ Recovery rate is an experiential indicator measured using data from households' own reports of their ability to recover.

⁵ Index-based insurance pays out benefits based on a predetermined index, such as rainfall level.

groups, improving social protection system functioning. Stoeffler et al.'s evaluation of an index insurance pilot program for cotton farmers in Burkina Faso suggests that the program functioned best when the insurance delivery aligned with the agricultural calendar and insured farmers trusted that the organization managing the system (local government, financial institution, or company) would pay following a poor crop year. SOFITEX, a private-sector cotton company, leveraged its centralized monopoly and the tight value chain of cotton in the study area to develop local performance indices (based on cotton farmer group-level production and yield data), which became the basis for the company's insurance product. During farmer interviews, some noted selling insurance late prevented them from investing more in cotton, but empowered them to invest in other agricultural activities later (Stoeffler et al. 2020). This study also has implications for market systems resilience (see [Market Systems](#)).

Complementing these findings on the importance of trust, Matsuda et al. (2019), Belissa et al. (2019), and Noritomo and Takahashi (2020) find an association between formal insurance programs and informal risk-sharing methods⁶ and an increase in consumer demand for agricultural insurance, strengthening the system, by promoting insurance through informal risk-sharing institutions. Matsuda et al. and Belissa et al. studied Oromia Insurance Company's drought index-based livestock insurance programs in different parts of Ethiopia. Matsuda et al. conducted four household surveys between 2012–2015 across 17 sites in the Borena Zone. They found insured households that received insurance payouts also received significantly more informal financial support from others. These findings indicate that formal insurance can complement informal risk-sharing methods to support households during drought years (Matsuda et al. 2019). Meanwhile, Belissa et al. tested the effects of promoting the index-based insurance program to address trust and information issues in the Rift Valley Zone through informal risk-sharing institutions known as *iddirs*. Researchers conducted training with randomly selected *iddir* leaders to build trust and share information about the insurance product and the managing company with their group members. The findings revealed that offering insurance with a delayed payment option while leveraging the trust in informal institutions resulted in a 43 percent uptake, compared to 8 percent for insurance with non-delayed payments promoted through formal institutions. This study shows that both a combination of delayed premiums and promoting insurance through informal risk-sharing institutions can increase consumer demand for agricultural insurance, and therefore strengthen the system (Belissa et al. 2019). Furthermore, in their study, Noritomo and Takahashi (2020) analyzed an insurance program in northern Kenya and found differential impacts depending on poverty status. While wealthier insured households experienced increased informal transfers from others after receiving payouts, this effect was not observed among the poorer insured households. This finding presents a caveat to the opportunity to

⁶ Communities use informal risk sharing methods, such as participating in informal savings groups or pooling resources together to assist households in crises, to manage and distribute risks among their members.

encourage participation in insurance programs through informal systems (Noritomo and Takahashi, 2020).

Climate Risk Insurance: While still nascent, increasing the capacity of climate risk insurance markets to manage slow climate variables (by addressing slow onset risks like sea-level rise or desertification) and broaden participation (by increasing the coverage of assets and improving accessibility in existing schemes) can contribute to social protection system resilience. Dale (2018) analyzed and combined relevant data sources on climate resilience policy to provide a comprehensive representation of progress on establishing policies that help countries absorb climate shocks and increase resilience, through climate risk insurance and social protection systems, as part of the United Nations Climate Resilience Initiative: Anticipate, Absorb, Reshape. **To strengthen the climate insurance program and contribute more effectively to social protection system objectives, the findings suggest that efforts should be focused on expanding the range of covered risks, improving accessibility, and further developing regional insurance pools. These measures would also enhance the capacity of vulnerable countries and communities to absorb climate-related shocks** (Dale 2018). While climate risk transfer⁷ tools such as insurance schemes provide financial support for communities facing specific, time-limited, and localized climate-related losses (such as severe weather or droughts), Dale notes they have limitations in dealing with both high-frequency or slow onset risks (such as sea-level rise or desertification), because these events are highly certain and affect large areas. Efforts are underway to expand the scope of risk transfer tools to include a wider range of impacts, such as long-term droughts, and cover more assets. For example, the African Risk Capacity Insurance Company has extended its coverage to include long-term droughts (Durand 2016). Dale's findings also show that climate insurance schemes are not yet globally common: Only 40 countries report the option to insure crop and property against climate impacts, 34 countries report access to micro-insurance schemes, and 48 countries (only in Africa and the Caribbean) are part of a large-scale regional insurance pool.⁸ Prominent examples include the Africa Risk Capacity initiative⁹ and the Caribbean Catastrophic Risk Insurance Facility.¹⁰

⁷ Risk transfer in this context is a process through which the burden of financial loss or responsibility for risk financing is shifted to another entity, in the case of an extreme climate event.

⁸ By aggregating individual country processes into risk transfer pools, those countries can spread their risks geographically and access insurance on better terms from a larger pool.

⁹ Find more information on the Africa Risk Capacity initiative on their website (<https://www.arc.int/>).

¹⁰ Find more information on the Caribbean Catastrophic Risk Insurance Facility on their website (<https://www.ccrif.org/>).



Governance and Political Systems

Interventions can improve governance system resilience by ensuring coordinated support across multiple sectors and levels of governance. This involves assisting key systems at various levels, such as the village, community, region, and country. Governance mechanisms including policies, cultural and gender norms, community networks, and social protection can create enabling conditions for systemic change and build resilience. By measuring resilience, practitioners can assess the role of governance systems, including safety nets, in helping people navigate unexpected crises and safeguard development gains. Resilience across sectors and regions, and between communities and governments, requires effective governance to coordinate activities. **A critical aspect of resilient governance is strengthening local systems and building the capacity of host country entities (USAID 2023).**

A key finding from the recent literature was:

- Encouraging learning and polycentric governance¹¹ in agricultural sectors can promote system-level inclusion and functionality, in turn, promoting resilience (Morgan et al. 2019; Alderman et al. 2021; Bene et al. 2021).

Findings from Oxfam's Gendered Enterprise and Markets (GEM) program in Zambia indicate that multi-stakeholder forums can increase the inclusiveness of decision making around agricultural policy by bringing together smallholder farmers and larger market actors. Morgan et al. (2019) conducted a participatory impact assessment and learning approach to evaluate this program, analyzing data from household surveys, focus group discussions, and key informant interviews. The researchers found that the forum increased interaction and understanding between players in the dairy and soya value chains, leading to improved awareness of smallholder farmers' roles and challenges as well as the expansion of agricultural services to previously untapped areas. Members found the forum beneficial for sharing ideas, addressing concerns, and collaborating on designing suitable packages for smallholder farmers. However, one government source claimed processing companies dominated the forum, resulting in an imbalanced power dynamic. The forum was involved in influencing policies such as the Farmer Input Subsidy Programme. Members expressed a desire for the forum to continue even after the program's conclusion. **By encouraging learning and broadening participation in decision making to diverse stakeholders (including government, industry, and smallholder farmers), Morgan et al. found that stakeholders can gain a deeper understanding of agricultural market system dynamics, enabling more inclusive agricultural policy (see [Market Systems](#)).**

¹¹ Polycentricity refers to a system of governance where multiple governing bodies at different levels collaborate to establish and enforce rules within a specific policy area or geographical region (Vroegindewey et al. 2019).

Further, offering agricultural value chain trainings to government staff involved in public service delivery may increase governance resilience. Evidence from Alderman et al.'s (2021) impact evaluation of the Strengthen PSNP4 Institutions and Resilience Development Food Security Activity (SPIR DFSA) in Ethiopia showed high government staff interest and participation in agricultural value chain training. SPIR DFSA provided public service delivery trainings for government staff who deliver public services, some related to agriculture, at the district (*woreda*) and subdistrict (*kebele*) levels, covering various topics such as nutrition behavior change communication, WASH activities, livelihoods, women and youth empowerment, and climate resilience. The project also focused on value chain development, particularly in poultry production and goat and sheep fattening, with specific trainings and the formation of producer marketing groups associated with these value chains. The participation rates in value chain trainings varied across treatment groups, with the poultry production training most popular among women and sheep and goat fattening popular among men. The membership rates in producer marketing groups were relatively lower, but higher among those who participated in value chain trainings. Of all of the trainings offered, participants appeared to have the highest interest in value chain trainings, traveling the longest (on average 34 minutes) and reporting the highest out-of-pocket cost for attending these trainings (\$0.38, equivalent to 29.9 Ethiopian Birr, per event) (Alderman et al. 2021). **Although this study did not investigate effects on policy, it shows that encouraging learning about the complexities and dynamics of the market system can enable government staff to make more informed decisions and adapt their strategies accordingly.**

Evidence from Bangladesh indicates that establishing various groups can decentralize decision making and authority, encourage learning, and strengthen local institutions. This approach helps to build a more resilient agricultural market system that can better withstand shocks and adapt to changing circumstances. Béné et al. (2021) conducted an impact evaluation of Enhanced Coastal Fisheries in Bangladesh, a program focused on improving the coastal fisheries co-management system across 12 coastal districts, with a target of supporting 20,000 fisher households. The initiative involved various stakeholders from the public, private, and civil society sectors, establishing groups such as Hilsa Conservation Groups, Hilsa Ghat Groups, Fisher Women's Community Savings Groups, and Community Fish Guards. These groups played a vital role in implementing adaptive co-management approaches, including awareness programs and livelihood support for fisher households. **These approaches allowed for greater inclusivity and participation from diverse stakeholders, fostering collaboration and shared responsibility.** As a result, the groups implemented spatial and temporal closures for effective fishing management. **In addition, through extensive training, the community members gained a better understanding of sustainable fishery management, leading to the strengthening of local institutions and the social capital of fishing-dependent communities** (Béné et al. 2021) (see [Market Systems](#))



Health Systems

USAID defines health system resilience as “the ability of a health system to mitigate, adapt to, and recover from shocks and stresses” (USAID n.d.). A resilient health system possesses two key qualities to meet the healthcare needs of the population. First, it can maintain the provision of ongoing healthcare services without interruption. Second, it can expand its services in response to unexpected shocks or pressures. Well-functioning health systems are considered fundamental for overall health advancement and socio-economic development (USAID n.d.). A key finding from the recent literature was:

- Interventions that improve accountability in healthcare systems can broaden participation, improving how the systems function and strengthening the health system’s resilience (Christensen et al. 2020).

Interventions that improve accountability in healthcare systems can broaden participation, improving how the systems function and strengthening system resilience. To improve confidence in health workers, the quality of care in health systems, and healthcare system resilience, Christensen et al. (2020) collaborated with the Government of Sierra Leone and three international non-governmental organizations to examine two social accountability efforts aimed at improving health worker performance. One intervention focused on community monitoring, while the other provided status awards to clinic staff. These efforts were implemented among frontline bureaucrats in 254 government-run health clinics in the context of the 2014–2015 West African Ebola crisis. The study, conducted just before the Ebola outbreak, allowed for evaluating the impacts of these interventions under normal and crisis conditions. The findings revealed that both interventions led to improved clinic utilization, patient satisfaction, and child health outcomes before the Ebola crisis. During the crisis, the interventions were associated with higher reported Ebola cases but lower Ebola-related mortality, particularly in areas with community monitoring clinics. The study suggested that these interventions improved the perceived quality of care, encouraging patients to report symptoms and seek treatment. **Overall, the study provides experimental evidence demonstrating the benefits of social accountability interventions to enhance health system performance, increase epidemic reporting, and reduce mortality during a crisis, thus making health systems more resilient to major disruptions** (Christensen et al. 2020).



WASH Systems

WASH systems play a crucial role in community well-being, particularly for vulnerable populations. Yet, these systems face challenges due to population growth, climate variability, and inadequate management. A systems approach expands the focus beyond immediate water-related concerns to encompass the

resilience of overall natural, social, economic, and institutional systems (USAID 2018). A systems approach entails investments in WASH infrastructure and human and institutional capacities to effectively govern these natural resource-based systems. A key finding from the recent literature was:

- Collaboration between local managers encouraged learning about existing water access and infrastructure shortcomings and adapting, indicating interventions that strengthen WASH system polycentric governance can improve the system's capacity (Vonk 2022).

Interventions that strengthen WASH system polycentric governance can improve the capacity of the system. Vonk's (2022) impact evaluation of the Improved WASH Services in Western Area Urban and Western Area Rural Districts project studied the sustainability of integrated WASH services in Sierra Leone. The project's interventions included the construction of water points, the rehabilitation of existing infrastructure, and the establishment of water management committees. Evidence from household surveys, focus group discussions, key informant interviews, and analysis of project data show that **the project improved access to safe water, improved sanitation and hygiene practices, and had a positive impact on the capacity of local government institutions to plan, implement, and monitor water and sanitation initiatives.** To capture key aspects related to the sustainability of water and sanitation systems, Vonk calculated dimensions in water security, equity, institutions, operations, well-being, and the environment. The evaluation assessed 14 indicators related to these dimensions by administering an 85 question survey to individuals or households. According to these metrics, the project produced a 21 percent increase in the institutions dimension score (indicating that duty bearers are more accountable and transparent, levels of trust are high, and there is an enabling environment for service provision) and 15 percent increase in the operations dimension score (meaning systems and services have an increased asset management scheme in place to enable easy and continuous access that is affordable and financially viable). **The findings of the study suggest that progress has been made toward the expected impacts, which include more efficient and sustainable management of WASH services, a safer and healthier environment, increased well-being, and greater resilience against disasters** (Vonk 2022).



Market Systems

Market systems resilience (MSR) is a system's ability to effectively absorb, adapt, or transform to handle unexpected shocks and stresses. USAID applies an MSR approach to analyze and enhance the resilience of market systems on which vulnerable communities depend. Ensuring the continued sustainability and functioning of market systems ultimately benefits the broader economy and the well-being of households. Private sector engagement is essential to strengthening the resilience of the economic and

market systems (USAID 2023). Structural characteristics of MSR include connectivity, diversity, and power dynamics (Downing et al. 2018). Overall findings from the recent literature include:

- Effective interventions that facilitate access to robust and adaptable markets can enhance household, community, and enterprise resilience by promoting asset accumulation, livelihood diversification, and facilitating a speedy recovery in the face of shocks and stressors (Ivaschenko et al. 2020; Stoeffler et al. 2020).
- Smith and Frankenberger (2022) discovered that PRIME interventions enhancing the connectivity of the livestock market exhibited resilience by enduring drought.
- Diversity within market systems enhances functionality, inclusiveness, and resilience by reducing risks, fostering innovation, ensuring economic stability, strengthening supply chains, creating new market opportunities, and promoting social cohesion (Downing et al. 2018).
- Programs have established multi-stakeholder groups to curb the negative effects of excessively imbalanced power through polycentric governance (Morgan et al. 2019; Béné et al. 2021).

Connectivity

Market connectivity is associated with efficient value chains and centralization, which can help the system function and manage and adapt to shocks and stresses. **Effective interventions that facilitate access to robust and adaptable markets can enhance household, community, and enterprise resilience by promoting asset accumulation, livelihood diversification, and facilitation of a speedy recovery in the face of shocks and stressors** (Ivaschenko et al., 2020).

Stoeffler et al.'s evaluation of an index insurance program for cotton farmers piloted in Burkina Faso (see [Social Insurance](#) for more information) suggests that market connectivity allows the design of a promising index insurance. Stoeffler et al. tested the viability of developing an insurance product in multiple markets within farmers' portfolio of activities, including cotton, grain, and maize. They compared net revenues per hectare, risk-return profiles, and value chains of these crops. The researchers found that the cotton value chain was highly connected, as every cotton farmer is a member of a farmer group, *Groupes de Producteurs de Coton*, consisting of ten to forty farmers from the same community. SOFITEX, a cotton company, distributed seeds, fertilizers, pesticides, and formal credit through these groups, in addition to purchasing the entire production. The availability of production data on these farmer groups permitted the low cost implementation of a reliable yield-based index insurance. **The centralized organization of the market facilitated the distribution of agricultural inputs and an insurance product to farmers** (Stoeffler et al. 2020).

Ivaschenko et al. (2020) studied the impacts of cash transfers distributed in Fiji (see [Social Assistance](#) for more information) **and found households benefiting from cash transfers and access to a functioning market experienced greater recovery.** Markets were considered

functional if households were able to purchase essential goods that they usually would. In the presence of functioning markets, the treatment resulted in a significant recovery rate of 32.3 percent for dwelling loss (compared to 15.4 percent without access to a functioning market) and 36 percent for roof damage (compared to 18.9 percent without access to a functioning market). The study emphasizes the importance of functional markets when providing cash assistance, as quick-onset disasters can disrupt both physical infrastructure and trade. Ivaschenko et al. explains that while market access was initially lost after the disaster, it was quickly restored, enabling households to purchase goods and services with the cash-based assistance.

Smith and Frankenberger (2022) discovered that interventions under the PRIME project that enhanced the connectivity of the livestock market increased resilience to drought. The project's livestock market systems-related interventions included the establishment of veterinary pharmacies and improving access to commercial animal feed and fodder seed. These interventions, paired with participation opportunities for households, improved household resilience. While these interventions mainly focused on system-level improvements to market connectivity (such as setting up veterinary pharmacies), there were some opportunities for households to directly participate (such as purchasing medications from veterinary clinics). The study found that when households participated, their resilience greatly improved (Smith and Frankenberger 2022) (see [Financial Systems](#) interventions of PRIME and [Information Systems](#) interventions).

Diversity

Diversity within market systems enhances functionality, inclusiveness, and resilience by reducing risks, fostering innovation, ensuring economic stability, strengthening supply chains, creating new market opportunities, and promoting social cohesion. Embracing and nurturing diversity is key to building robust and adaptable market systems that can withstand challenges and thrive in an ever-changing environment (Downing et al. 2018). An impact evaluation by Malik et al. (2020) found that strengthening the productive sectors increased households' access to basic services necessary to withstand shocks and adapt in times of crises. Evidence from Somalia shows that this approach helped people diversify livelihood strategies, intensifying production at the household level and enhancing access to markets and market information to extend households' frontier of possibilities (Malik et al. 2020). Malik et al.'s analysis did not share details about how productive sectors were strengthened, but promoted the idea that **strengthening the productive sector can play a role in helping people diversify their livelihood strategies.**

Power Dynamics

Power dynamics also determine MSR. In market systems, excessive concentration of power can manifest into exclusionary monopolies or oligopolies. These market structures are inflexible, and fragile, whereas **market systems that distribute power and wealth more evenly and have diverse solutions and resources to address shocks are generally more resilient** (Downing et al. 2018).

Programs have established multi-stakeholder groups to curb the negative effects of excessive imbalanced power through polycentric governance. Such programs (Morgan et al. 2019; Béné et al. 2021) are previously discussed in the [Governance and Political Systems section](#). Morgan et al.'s (2019) findings suggest that the agricultural market system benefited from the involvement of diverse stakeholders (including government, industry, and smallholder farmers) in a forum. While one government source claimed that the forum was dominated by processing companies, resulting in an imbalanced power dynamic, the majority of members found the forum beneficial and expressed interest in continuing the forum after the program's conclusion. Although power dynamics were at play, this intervention connected the agricultural value chains to foster collective action and allow for well-suited institutions to respond to challenges and promote positive changes.

Béné et al. (2021) investigated a coastal fisheries co-management system in Bangladesh comprised of various stakeholders from the public, private, and civil society sectors. The researchers found establishing this network initiated sharing of sustainable fishery management approaches between groups, which increased the solutions and resources available to address recurrent crises such as floods and cyclones (Béné et al. 2021).

Information Systems

Information systems can make data more accessible, improve data analytics, and inform strategic responses to shocks and stresses while maintaining essential services. These digital information systems not only help maintain resilient communications networks in the face of shocks, but also enable collaboration and learning for collective action across individuals and geographies. According to USAID's 2022 Resilience Policy, the organization is "working toward a future where digital technology promotes inclusive growth, fosters resilient and democratic societies, and empowers all, including the most vulnerable" (USAID 2023). Overall findings from the recent literature include:

- Water information systems can increase accessibility and sharing of information among local water resource management bodies, as demonstrated by evidence from Kenya (Dickinson and Patterson-Stein 2021).

- Disaster risk reduction information systems can continue to function in the wake of shocks (Smith and Frankenberger 2022).

Water Management

Water information systems can increase accessibility and sharing of information among local water resource management bodies, as demonstrated by evidence from Kenya.

Dickinson and Patterson-Stein (2021) conducted an evaluation of the Kenya Resilient Arid Lands Partnership for Integrated Development (Kenya RAPID) activity, which installed sensors on specific boreholes that are crucial during droughts in five counties. These sensors monitored water pump performance and shared the information with local water managers and officials. The evaluators conducted 16 key informant interviews with various water personnel and eight focus group discussions with water users in two Kenya RAPID counties (Garissa and Turkana) and two comparison counties (Tana River and West Pokot). County and sub-county water managers in Kenya RAPID counties had largely positive views of the sensor-based system and said it provided useful, relevant data that quickly reached them to support water management activities. (Note, full access to the data dashboard was not available yet in Garissa.) While the information increased water managers' awareness of opportunities to improve water service delivery, Dickinson and Patterson-Stein found that barriers, such as lack of access to technology repairs and unclear roles and responsibilities across water management bodies, prevented the borehole sensor intervention from improving water service delivery. These results suggest information provision alone had limited impact on the resilience of water management bodies and highlight the broader social, economic, and political context needed to unlock the full potential of technical solutions. **The Kenya RAPID intervention introduced an innovative technological solution to one part of the borehole functionality problem: lack of timely information about strategic borehole breakages** (Dickinson and Patterson-Stein 2021).

Disaster Risk Reduction

Disaster risk reduction information systems can continue to function in the wake of shocks, as demonstrated by evidence from the 2012–2017 PRIME activity in Ethiopia's drylands, which are highly susceptible to climate shocks. Shortly after the project began, the area experienced severe and prolonged droughts caused by localized and nationwide weather phenomena, including the 2015–2016 El Niño and the negative Indian Ocean Dipole. As part of the program's climate change adaptation components, the PRIME activity supported disaster planning and response programs and community groups, assisted communities in developing plans to respond to shocks, and disseminated information about early warning signs and climate change adaptation. **An evaluation by Smith and Frankenberger found 56.3 percent of households in the project areas gained access to a disaster planning and response program as a result of the activity. This helped communities**

predict and prepare for disasters (Smith and Frankenberger 2022) (see [Financial Systems](#) of PRIME and [Market Systems](#) for more information).



Food Systems

Ensuring the resilience of food systems is crucial to addressing the challenges they face, such as climate change and socioeconomic shocks. To strengthen food system resilience, it is important to build capacities, such as diversified agricultural practices, efficient supply chains, and adaptive governance systems. The interventions outlined below aim to enhance these capacities, addressing productivity, market access, technology, information sharing, and policy frameworks. By implementing these interventions, food systems can become more efficient, sustainable, and inclusive, better prepared to withstand shocks and contribute to long-term food security. Overall findings from the recent literature include:

- Evidence from sub-Saharan Africa shows that solar-powered cold storages in horticulture markets improve product quality and strengthen vertical connectivity in complex food systems, effectively addressing vulnerabilities related to food security, poverty, economic growth, and environmental sustainability in developing nations (Takeshima et al. 2021).
- Encouraging learning and technology adoption in West Africa's Sahel region produced quantifiable improvements in food system productivity and local-scale land and water management techniques (Mishra et al. 2023).

Food systems that are climate-smart through utilizing renewable energy and water-saving land management approaches have the capacity to be resilient and adapt to climate change. Evidence from sub-Saharan Africa shows that solar-powered cold storages in horticulture markets improve product quality and strengthen vertical connectivity in complex food systems, effectively addressing vulnerabilities related to food security, poverty, economic growth, and environmental sustainability in developing nations.

Takeshima et al. studied seven cold storages installed across different horticulture markets in Nigeria, and found that cold storages increased the prices that both market agents and farmers received. They found that higher prices were linked to improved quality of the products and expanded value-adding activities carried out by market agents.¹² They also found market agents who implemented value-added activities received up to 20 percent more advance payments from buyers, indicating greater vertical linkages. Cooling technologies also offer various systems-level benefits, such as ensuring a more

¹² Market agents are individuals or entities involved in the buying, selling, and distribution of goods within a market. They can include traders, wholesalers, retailers, and other intermediaries who facilitate the flow of products between producers and consumers.

abundant and stable supply of perishable horticulture products and reducing food loss and waste. Takeshima et al. note that declining off-grid solar costs enable affordable cooling technologies in poor regions such as northeast Nigeria, while improved solar panel efficiency supports their adoption in tropical countries (Takeshima et al. 2021). **This intervention enhanced resilience capacities by addressing productivity, market access, and technology.**

Encouraging learning and technology adoption in West Africa’s Sahel region produced quantifiable improvements in food system productivity and local-scale land and water management techniques. To counter water scarcity and low land productivity-induced challenges, the World Food Programme partnered with USAID to implement land rehabilitation initiatives, including constructing water and soil retention structures called “half-moons.” Implemented across multiple sites in southern Niger, these interventions aimed to restore degraded lands at the farm level. Satellite data analysis revealed that post-intervention vegetation greenness (used as a proxy for improved soil and water conditions) increased by nearly 50 percent compared to pre-intervention levels,¹³ and the project area exhibited over 25 percent more vegetation than nearby control areas. **This approach effectively bolstered traditional land management systems, enhancing agricultural production and feed for livestock in arid ecosystems.** Mishra et al. (2023) state that the sustained benefits¹⁴ of these interventions suggest their potential for widespread adoption, promising increased agricultural output and food system resilience to drought in West Africa. The authors suggest that scaling up this approach can foster more resilient and sustainable farming practices, ultimately reducing food security vulnerabilities (Mishra et al. 2023).

III. CONCLUSION

In conclusion, the literature review reveals the feasibility of conducting systems-level research. Systems-level resilience evidence exists across multiple sectors, including but not limited to those mentioned in this literature review. Reviewers found an abundance of systematic studies on the impact of systems-level interventions on household resilience from 2018–2022, and more context-specific, empirical, and implicit evidence on how systems were strengthened to withstand shocks. In total, the contexts and results of these studies lead to the following broad observations:

- Many MSR, governance, financial, and social protection systems approaches focused on agricultural topics. Alderman et al. (2021) found that government and community interest was highest in agriculture-centered activities among various social assistance topics.

¹³ Half-moons at all sites resulted in a significant 49.7 percent rise in peak vegetation compared to the pre-intervention period, even after adjusting for variations in rainfall.

¹⁴ Mishra et al. indicate the increase in vegetation brought by the interventions sustained to date. The interventions took place between 2013–2016 and the study was published in 2023.

- Cash transfer programs are widely studied and commonly integrated within broader social protection systems in the literature.
- Although many interventions show promising results, the absence of actual shocks in the literature leads to weak evidence about how systems' resilience capacities have been strengthened or their vulnerability changed.
- Many programs mix systems-level efforts with interventions targeting individuals, households, or community groups, making it challenging to discern the impacts of systems-level approaches alone.

The authors of the reviewed literature offer a few actionable takeaways for future programming and research:

- Authors emphasize improved monitoring and evaluation for resilience programs, considering unique sampling and data collection challenges to ensure comprehensive and accurate impact assessments (Vonk 2022; Smith and Frankenberger 2022). Evaluations should include funded implementation monitoring, following frameworks such as Reach, Effectiveness, Adoption, Implementation, and Maintenance (Dickinson and Patterson-Stein 2021).
- Enhancing systems involves technical, social, economic, and political aspects, and prioritizing user experience is vital (Dickinson and Patterson-Stein 2021).
- System-level interventions should ensure active household involvement for maximal benefit and enhanced resilience against shocks (Smith and Frankenberger 2022).
- Initiatives should prioritize a comprehensive understanding of local gender dynamics and intersecting inequalities among community participants (Patnaik 2021).

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ANNEX A. METHODOLOGY AND SEARCH TERMS

To conduct the review, the authors first examined resources shared by Agency Learning Agenda points of contact for resilience, followed by a search for relevant literature from the most recent five-year period (2018–2022) on USAID’s Evaluation Registry, the International Initiative for Impact Evaluation (3ie) Development Evidence Portal, Journal Storage (JSTOR), and the American Economic Association’s (AEA) registry of randomized controlled trials. Similar search terms were used across sites, with adaptations made as outlined in Table I. Evidence included case studies, literature reviews, expert opinion surveys, impact evaluations, and randomized controlled trials.

Table I. Literature Review Search Terms and Adaptations

Site	Date Range	Search Terms	Results	Action	Date Performed
JSTOR	After 2018	Strengthen resilience shock development aid	184 results	reviewed all	February 10, 2023
JSTOR	After 2018	Strengthen resilience shock development	343 results	reviewed first 50	February 10, 2023
Point of Contact (3ie)	After 2018	Abstract:(resilience) or title:(resilience*)	86 results	reviewed first 40	February 22, 2023
AEA	After 2018	Anywhere in entry: (resilience)	17 results	reviewed all	February 22, 2023

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