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REALIZING RESILIENCE

Effects of integrated programming on household's sources of resilience and food security in the midst of drought

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Contents

Acknowledgements

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Executive Summary

In the lowlands of Ethiopia, pastoralist and agro-pastoralist households are struggling to cope with the increasing frequency and intensity of drought, resulting in deteriorating livelihoods, rising food insecurity and increased dependence on humanitarian assistance. While many investments have been made in response to these challenges, most have produced shorter term benefits that erode either after the program ends or when the region experiences a major drought.

The Mercy Corps-led, USAID-funded 'Resilience in Pastoral Areas — North' (RIPA-North, henceforth 'RIPA') program was designed with the assumption that households experiencing recurrent humanitarian need can improve their well-being even amidst shocks through systems-strengthening interventions, particularly market systems development (MSD) and government-led service strengthening. Specifically, RIPA's design assumed that household well-being will be optimized if market actors and government service providers facilitate households' ability to access and utilize multiple resilience-enhancing services, or resilience capacities, thus allowing them to manage diverse risk factors. A focus on geographic layering and integration of services is therefore a key pillar of RIPA's implementation strategy.

RIPA integrated interventions included:

a) Strengthening livestock market systems while fostering opportunity to engage in other on and off-farm income sources to diversify risk (i.e. farming, youth employment);

b) Improving access to complementary services including access to information, financial services, and an improved natural resource base, and

c) Promoting community engagement in knowledge and behavior change interventions for nutrition.

To achieve this, RIPA partnered with and supported the private sector to diversify their business models in a manner that extended economic and social benefits to last mile communities, while also engaging government counterparts to better provide public services.

This evidence brief summarizes the outcomes from RIPA's third Recurrent Monitoring Survey (RMS), conducted in May 2023, 18 months into implementation of RIPA's development interventions.[1] The RMS is a panel survey conducted annually at the end of each dry season, surveying 1,870 households across 22 treatment woredas, or district-level administrative units, and 21 comparison woredas.[2] Quantitative analysis was conducted to explore how exposure to the RIPA program is linked to differences in households' access and use of resilience capacities and their food security in the face of a severe drought in the region. To understand the effects of layering and integration, the study analyzed key outcomes in areas where RIPA supported multiple interventions compared to areas where only one or no program activities took place. The results demonstrate the contribution of RIPA's systems-strengthening approach to key outcomes and resilience in the lowlands, but do not establish a robust counterfactual to definitively evaluate project impact.

Overall, the RMS results indicate that households that had the highest exposure to multiple RIPA interventions experienced improved food security, and that RIPA had a large effect on enhancing nearly all essential resilience-enhancing services at the time of data collection when compared with non-RIPA areas and overtime. Notably, these gains were made during a period of extended drought in the Ethiopia lowlands. As such, the findings contribute to the growing body of evidence on what programs and approaches effectively contribute to improved resilience among pastoralists and agro-pastoralists in this region.

1 While the RIPA program formally started in 2020, the initial years of the program were affected by COVID19 economic lockdowns, which were largely prohibitive for the start-up of development interventions. The program began its originally planned development interventions in January 2022 and the third round RMS was conducted in May 2023.

2 Treatment woredas are referred to as "RIPA areas" and comparison woredas as "non-RIPA areas" throughout this report.

How did RIPA affect access and use of key resilience-enhancing services promoted by the program?

RIPA's systems-strengthening interventions contributed to sizeable increases in access and use of multiple resilience-enhancing services, or sources of resilience, in comparison to non-RIPA areas and over time.

The RMS demonstrated significant positive effects on nearly all sources of resilience just 18 months into implementation and following a long, historic drought. Compared to non-RIPA areas, households in RIPA areas had higher levels of access to nearly all services targeted by the program: climate, market and extension information, rangeland and DRM management services, formal and semi-formal financial services, livestock and farm inputs; and nutrition and hygiene services.

Households in RIPA areas also demonstrated increased utilization of the majority of these sources of resilience relative to non-RIPA areas. This indicates that improved access largely translated into use of resilience-enhancing services in the face of the drought and other shocks experienced. Important exceptions were limited to no apparent or limited impacts of RIPA on measures of women's empowerment and social capital.

Table 1: Evidence supporting RIPA impact on 'access and utilization" of sources of resilience, including resilience-enhancing services

Resilience-enhancing service , or resilience capacity	Evidence supporting RIPA impact on 'access'	Evidence of HH 'utilization'/practice
1. Climate information	+++	+++
2. Rangeland and DRM management services	+++	+++
3. Formal and semi-formal financial services	+	+
4. Livestock and Farm Inputs	Livestock + Farm +++	Not studied
5. Access to information services	+++	+
6. Market access (Visited Market in last 30 days)	No effect	No effect
7. Livestock management practices	Not applicable (N/A)	Fattening + Vet Drugs Feed/Fodder++
8. Nutrition and hygiene services	+++	+
9. Community Institutions (access) and Social Capital (utilization)	++	No effect
10. Women's empowerment	Not applicable (N/A)	No effect

KEY: + = p < .1 ++ = p< .05 +++ = p < .01

Decentralized and diverse sources of information coupled with knowledge of resilient management practices contributed to anticipatory action during drought, and reduced shock effects. RMS results demonstrated that households with access to climate and early warning information were more likely to engage in positive anticipatory action, such as destocking or haymaking. In RIPA areas, 78% of households that accessed climate and early warning information used it to take anticipatory action, compared with 59% of households in non-RIPA areas. In addition, households that used climate and early warning information to take anticipatory action reported experiencing fewer shocks (2.3 shocks on average) than households who didn't take action (3.1 shocks on average).

RIPA's systems-strengthening interventions may have contributed to a spillover effect on non-RIPA communities. Non-RIPA households also demonstrated increased access and use of key resilience capacities between 2021 and 2023, albeit at a much lower rates than RIPA households. This was particularly true for capacities where RIPA enabled service delivery through the private sector and government-led services. Qualitative analyses tracked independent investments by 24 new businesses in RIPA-supported sectors, which replicated or built upon RIPA-supported businesses. In line with predicted systems intervention effects, these findings point to a potential spill-over effect in service provision from RIPA to non-RIPA areas.

Support from RIPA did not appear to contribute to significant differences in several indicators of women's empowerment and social capital on a population level. These dimensions of resilience appear to require more time and a more comprehensive approach to achieve sustained population-level impact in the lowlands.

Did RIPA impact food security and how did intervention layering affect this outcome?

Table 2: Evidence supporting RIPA's impact on measures of food security

Food Security Measures of Well-Being	RIPA v. non-RIPA	High/Medium Intensity v. Low and no-intensity
Reduced Coping Strategies Index	+	++
Household Hunger Scale	No effect	++
Household Dietary Diversity	++	+

KEY: + = p < .1 ++ = p< .05 +++ = p < .01

The RMS demonstrated mixed effects of RIPA's systems-strengthening approach on HH food security outcomes when compared with all non-RIPA areas. Overall, all RIPA areas combined across high, medium and low intensity areas of implementation had a positive effect on Household Dietary Diversity (HDDS), a marginal positive effect on household coping strategies, and no apparent impact on Household Hunger Scale (HHS) as compared with non-RIPA areas. The findings suggest that RIPA's systems-strengthening approach only partially translated into improved well-being after 18 months of implementation and following drought.

RIPA contributed to consistent positive effects on multiple dimensions of food security when higher intensity areas were compared with lower intensity areas of intervention. The RMS further examined RIPA's assumption that geographic layering and intentional integration of services is key to impacting households' well-being in the face of severe shocks. The RMS found larger and more consistent differences in food security in RIPA 'high intensity' areas (where four or more interventions were implemented) and 'medium intensity' (two to three interventions) areas, where households were more likely to access multiple resilience-enhancing services than low-intensity or non-RIPA areas. The results suggests that resilience-enhancing services are more likely to translate to improved well-being outcomes when households have access to and use of a diverse set of resilience capacities, which were realized through more intensive layering and integrating of interventions. These results underscore the effectiveness of RIPA's layered systems-strengthening only 18 months into implementation and following a prolonged, severe drought.

Credit: Mercy Corps / Yosef Tiruneh / Ethiopia / 2023

Conclusion and Recommendations

Overall, the RMS findings illustrate how systems interventions, which facilitate service delivery through market actors and government service providers, can have a sizeable impact on household resilience and food security effects during crisis if intensively layered and integrated. RIPA areas that received a high dosage of interventions — facilitating access to multiple, diverse resilience-enhancing services — demonstrated a sizeable effect on nearly all critical sources of resilience and multiple dimensions of food security just 18 months into implementation and following a prolonged drought. Based on these findings, we provide the following recommendations:

- USAID should double-down on its strategy of concentrating systems strengthening interventions in highly fragile zones of influence, while increasing multi-year development programming in areas of recurrent and protracted crises.
- Pastoralism and livestock systems merit increased donor investments — including a focus on last mile market access and private sector led service provision — given their demonstrated adaptive capacity during prolonged droughts.
- Donors and implementing partners should coordinate and increase attention to market systems development and governance systems strengthening that both support and diversify livestock-based economies in lowland contexts, focusing on diverse income choices and services access.
- Decentralized and diverse climate, market and extension information sources, including through digital technology, private sector partners and government service providers require more funding and increased focus by implementing partners given their proven effects on anticipatory action and resilience.
- Interventions to address restrictive gender norms require greater time and scale, as well as effective mechanisms that can support cascading positive impacts seen among direct participants to the wider community.

Background: Addressing recurrent Shocks in Ethiopia's Lowlands

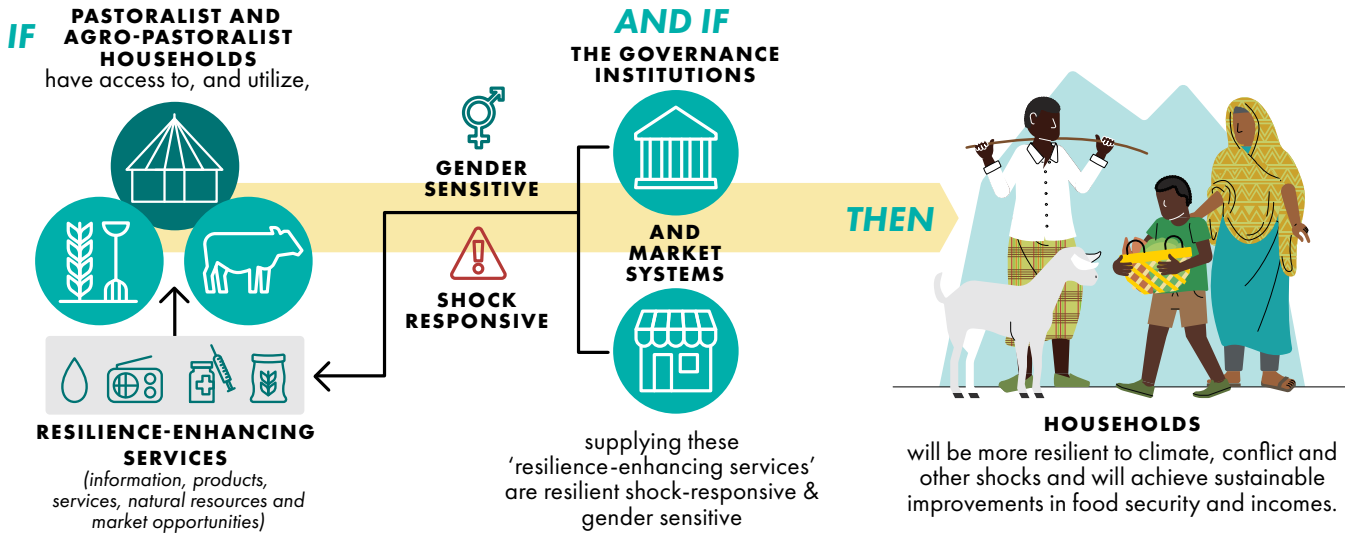
Historically dependent on livestock as a foundation for food security and local livelihoods, the lowlands of Ethiopia are facing more frequent and severe droughts and flood cycles. Between 2021 and 2023, these areas suffered their worst drought in 40 years — the fourth severe drought event in just over a decade — with five consecutive failed rainy seasons. The drought's effects were exacerbated by COVID-19-induced economic lock downs and the resulting global food price crisis further worsened by the war in Ukraine. These external shocks had a major deteriorating impact on local economies and household well-being in Ethiopia's lowlands.

In the face of compounding shocks, historically effective traditional rangeland management and livestock rearing practices, which form the foundation of lowland pastoral economies and are well-adapted to arid conditions, are being challenged. The resulting depleted livestock herds, reduced income, increased food insecurity, internal displacement and increased dependence on humanitarian food assistance are challenges that Mercy Corps, through the USAID Feed the Future-funded Resilience in Pastoral Livelihoods Program-North (RIPA-N, herein after RIPA) was designed to address.

Enhancing Resilience through RIPA's systems-strengthening approach

The Goal of RIPA is to 'Improve the resilience capacities of households, markets systems and governance institutions across the Somali, Afar and Oromia regions, collectively contributing to enhanced food security and inclusive economic growth'.

RIPA's Theory of Change to achieve this Goal is:



RIPA uses a market systems development (MSD) and local systems strengthening approach to catalyze and strengthen sources of resilience, particularly 'resilience-enhancing services' in four main sectors (see Table 2). This is achieved through partnerships with private sector actors and government institutions to foster services that are sustainable, inclusive, resilient and which reach scale.

A key principle of the RIPA approach is that the impact on household resilience will be optimized if households are able to access and utilize multiple sources of resilience (e.g. three or more)[3], to account for diverse risk factors. A focus on geographic layering and intentional integration of services is therefore a key pillar of RIPA's implementation strategy. RIPA's systems strengthening approach further builds on lessons learned and partnerships from Mercy Corps' multi-year, multi-sector investments in similar geographies, to foster resilience trajectories over time.[4]

Table 3: RIPA components and examples of 'resilience-enhancing services'

Component / Sector	Examples of 'resilience enhancing services' catalyzed by RIPA
1. Improved disaster risk management (DRM) and systems capacity	• Climate information and Early Warning services • DRM planning, funding and coordination services – Government and community DRM councils. • Rangeland management planning, funding and coordination services – Government and community Rangeland Councils
2. Diversified and sustainable economic opportunities for people transitioning out of pastoralism, particularly women and youth	• Local private sector businesses providing 'business development services' (BDS) to micro and small enterprises (MSEs) • Local private service providers establishing and supporting Village Saving and Loan Associations (VSLAs) • Financial institutions offering new/improved digital and sharia-compliant saving and loan products and services. • Short-term and fee-based technical training services • Last-mile animal health services. • Commercial fodder / feed production and retail services.
3. Intensified and sustainable pastoral and agro-pastoral production and marketing	• Vertically integrated livestock trading systems, including last-mile mini-collectors (buying agents) and embedded services. • Digital agricultural extension services
4. Improved and sustained nutrition and hygiene practices	• Community-based nutrition services for pregnant and lactating women. • Ante-natal and post-natal counselling services in health facilities. • Permagarden training and advisory services. • Nutrition / hygiene services for adolescents through school health clubs. *All the services under improved and sustained nutrition and hygiene practices are government-led services.*

The **Key Questions** that the RMS sought to answer include:

- Did RIPA's systems strengthening approach lead to improved access to, and utilization of, key resilience capacities, including resilience-enhancing services relative to non-RIPA areas?
- Is more intensive layering of RIPA interventions linked to improved levels of food security and well-being during and following severe drought?

3 This approach is informed by the findings from the TANGO International study 'Recovering from severe drought in the drylands of Ethiopia: Impact of Comprehensive Resilience Programming', L. Smith and T. Frankenberger, TANGO International (2022).

4 From 2012-2018, Mercy Corps implemented the Feed the Future Pastoral Resilience Improvement through Market Expansion (PRIME) program, which introduced market systems development approaches to Somali and Afar region, and laid the foundation for more inclusive market systems approaches under RIPA. Prior to PRIME, from 2009-2012, Mercy Corps facilitated market-based livestock offtake in Somali Region under the OFDA-funded Revitalizing Agriculture/Pastoral Incomes and New Markets (RAIN) program, creating relationships with key traders that are expanding last mile reach under RIPA.

Methodology

RIPA's Recurrent Monitoring Survey (RMS) is a comprehensive household panel survey conducted annually at the end of the long dry season. This evidence brief summarizes the findings from the third RMS (RMS 3) which was conducted in May 2023, but also utilizes the findings of the 2021 (baseline) for analysis of change over time and apparent program impact. The methodology and statistical analysis were developed and undertaken by Triangle International, with additional analysis conducted by an independent consultant contracted by Mercy Corps.

Data collection and analysis

The data collection process for RMS 3 involved 22 treatment woredas (all of the target woredas under RIPA) and 21 comparison woredas across the 3 program regions Somali, Oromia, and Afar. Each selected woreda comprised an average of three data collection kebeles. The selection of treatment and comparison woredas was based on matching key community characteristics, such as distance to market centers, and on socio-demographic profiles.

The total sample size was 1,870 households, composed of 940 respondent households in treatment kebeles (14 per treatment kebele) and 930 respondent households in comparison kebeles (14 to 16 per comparison kebele). RMS 3 interviewed the same households as RMS 1 and RMS 2, selected through systematic random sampling from a list of households within each kebele during RMS 1.

The 116 treatment kebeles were also categorized based on intervention intensity levels: low intensity, medium intensity, and high intensity. High intensity intervention areas are characterized as those where four or more interventions were layered across all four RIPA components, or sectors; medium intensity where at least two to three interventions were layered across all four components; low intensity areas had no more than one intervention implemented across all four components. These levels for each kebele were defined by tracing participants through last-mile market actors, Agri-input agents/retailers, Mother-to-Mother Support groups, and other structures supported by the program. Overall, there was a good balance on outcome measures at baseline across the treatment and comparison woredas and kebeles sampled.

Table 4: Sample size for RMS 3

Region	Treatment woredas	Control woredas	Data collection kebeles	Respondent HHs in treatment kebeles	Respondent HHs in comparison kebeles	Total targeted HH sample
Somali	11	10	71	462	425	887
Afar	7	7	43	294	329	623
Oromia	4	4	59	184	176	360
Total	22	21	172	940	930	1,870

The RMS analysis compared key outcomes for households in all RIPA areas (treatment) with all households in non-RIPA areas (comparison), and further disaggregated and compared results of high, medium and low intensity RIPA interventions areas with non-RIPA areas for measures of well-being. The disaggregation into high, medium and low intensity addressed the limitations of evaluating the impact of a systems strengthening program and provided further insight into the effects of RIPA's integrated approach in high and medium intervention areas.

Quantitative analysis was conducted using null-hypothesis significance testing. The models incorporated control variables including region, intervention category, livelihood type, household head gender, and shock exposure severity. These analyses aim to identify associations without establishing conclusive cause-and-effect relationships. All results reported are statistically significant at least at the $p<.05$, unless otherwise noted.

Limitations

The following are key limitations related to RMS 3 data collection and analysis:

- **Participant tracking:** RIPA's systems strengthening approach makes it difficult to verify whether households are direct program participants – i.e. households that have directly accessed or utilized the services that RIPA supports. The program works primarily with service providers, so households may have limited awareness of the program even if they access and use services they previously did not as a result of the program. The categorization of kebeles into 'low', 'medium' and 'high' intensity based on known locations of interventions is an alternative approach to understanding likely levels of household participation.
- **Geographical targeting and spillover effect:** RIPA's systems strengthening approach means many interventions are not just confined to RIPA's target woredas. The RIPA team has documented multiple examples of interventions that have spilled over into non-RIPA woredas, for example financial services, climate information services, and livestock trading systems (i.e. traders have hired livestock mini-collectors in neighboring woredas) and digital agricultural extension services. This means 'comparison' woredas could have still been significantly influenced by RIPA interventions. While such spillover is positive for lowland communities, this makes it harder to show statistically significant evidence of RIPA's impact in treatment woredas relative to control woredas. As such, the results reported are conservative estimates of apparent program impacts.
- **Tool modification:** The RIPA team has strengthened the RMS tool over repeated rounds. Some survey questions that appear in RMS 3 were not included in previous rounds, which means, in some instances, it is not possible to analyze evidence of change over time.
- **Timing:** Due to delays caused by COVID-19, most RIPA interventions and partnerships with private sector actors and government started from January 2022 onwards. In May 2023 when RMS 3 was conducted, the most advanced interventions had only been implemented for around 18 months. This is a relatively short period to generate population-level impact. The final RMS to be conducted between March to May 2025 will reflect impact after three years.

Evidence of RIPA's Impact on Resilience Capacities

RIPA seeks to achieve food security and economic well-being by supporting a wide-range of resilience capacities proven critical to the lowlands through previous research. The RMS examined whether RIPA contributed to a positive impact in: i) household access to key resilience capacities, or resilience-enhancing services; and ii) household improved utilization of these new resilience services. This distinction has proven critical, as access to a service does not automatically translate into optimal use of that service to achieve resilience and food security[5] (i.e. obtaining, or accessing climate information, is distinct from acting upon that information in a way that would support households' resilience, like selling some livestock early and using that money to protect the breeding stock and milking herd in anticipation of a drought).

Levels of 'access' and 'utilization' were assessed by comparing households in all RIPA areas combined with those in non-RIPA areas at the time of the survey (see Box 1). Descriptive analyses were conducted comparing household changes in RIPA and non-RIPA areas over time to provide an indication of trends on key outcomes.

5 I.e. This section covers the first part of the RIPA Theory of Change: "IF pastoralist and agro-pastoralist households have access to, and utilize, 'resilience-enhancing services'".

The RMS shows that **RIPA's systems-strengthening interventions contributed to sizeable increases in access to and use of multiple resilience-enhancing services, or sources of resilience, in comparison to non-RIPA areas and over time**. Compared to non-RIPA areas, households in RIPA areas had higher levels of access to nearly all services targeted by the program: climate, market and extension information, rangeland and DRM management services, formal and semi-formal financial services, livestock and farm inputs; and nutrition and hygiene services. These significant positive effects materialized just 18 months into implementation of development interventions and following a long, historic drought.

Households in RIPA areas also demonstrated increased utilization of the majority of these sources of resilience relative to non-RIPA areas. This indicates that improved access largely translated into use of resilience-enhancing services in the face of the drought and other shocks experienced.

Important exceptions were limited to no apparent or limited impacts of RIPA on measures of women's empowerment and social capital.

Table 5: Evidence supporting RIPA impact on "access and utilization" of sources of resilience, including resilience-enhancing services

Resilience-enhancing service, or resilience capacity	Evidence supporting RIPA impact on 'access'	Evidence of HH 'utilization'/practice
1. Climate information	+++	+++
2. Rangeland and DRM management services	+++	+++
3. Formal and semi-formal financial services	+	+
4. Livestock and Farm Inputs	Livestock + Farm +++	Not studied
5. Access to information services	+++	+
6. Market access (Visited Market in last 30 days)	No effect	No effect
7. Livestock management practices	Not applicable (N/A)	++
8. Nutrition and hygiene services	+++	+
9. Community Institutions (access) and Social Capital (utilization)	+	No effect
10. Women's empowerment	Not applicable (N/A)	No effect

KEY: + = p < .1 ++ = p< .05 +++ = p < .01

Climate / Early Warning Information[6]

Theory of how the service impacts household resilience: *Access to climate information and early warning services empowers households to make livelihood and household decisions to mitigate the negative impact of shocks and optimize outcomes from good seasons.*

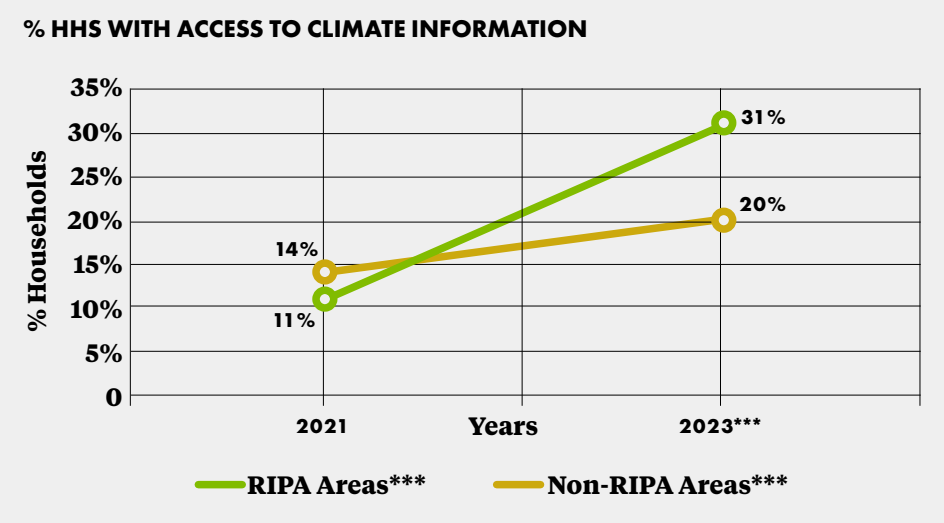
Finding: Households in RIPA target areas were much more likely to access climate and early warning information, utilize the information to better plan for disasters and reduce shock effects relative to households in non-RIPA areas.

6 For more detailed analysis of systems change and impact of climate information / early warning services, please refer to: Learning Brief #5: Climate information services in Ethiopia - A key resilience capacity for households and businesses (December 2023)

Impact on access

The RMS provides strong evidence that RIPA has contributed to improved climate and early warning information access in RIPA target areas:

- **2023 RIPA to non-RIPA comparison:** RIPA interventions areas gained greater access to climate information services relative to non-RIPA areas between 2021 to 2023, by a difference off 11 percentage points (pp).
- **Change over time:** The apparent impact is further supported by trends over time. While both RIPA and non-RIPA areas experienced a statistically significant increase in access to climate information, the rate of increase in RIPA areas appears much greater, where access to climate information increased by 19.3% pp compared to just 6.8% pp in non-RIPA areas.



2021	2023***	RIPA areas***	Non-RIPA areas***
Differences between RIPA and non-RIPA not statistically significant	differences between RIPA and non-RIPA $p < .01$	change over time in RIPA areas statistically significant $p < .01$	change over time in non-RIPA areas statistically significant $p < .01$

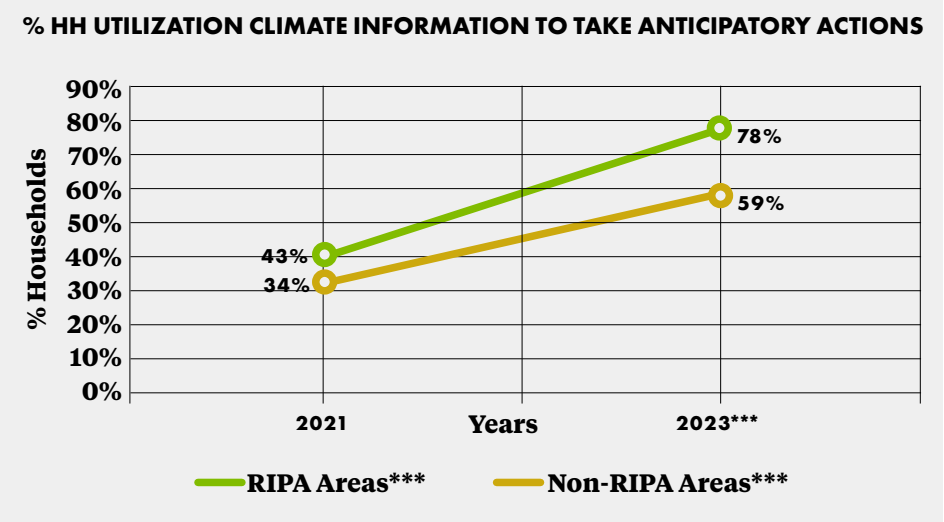
The most common sources of climate and early warning information in RIPA areas were community institutions (65%), government sector offices (47%) and traditional information exchange—such as the *dagu* system in Afar region (45%). The percentage of households accessing climate information from community institutions and government sector offices is notably higher in RIPA areas than in non-RIPA areas (42% and 31%, respectively, in non-RIPA areas). This is relevant because RIPA specifically focuses on strengthening these specific channels for information dissemination,[7] suggesting RIPA's contribution to this result.

Impact on utilization

Utilization of early warning and climate information as a resilience capacity means households are taking practical anticipatory action. Anticipatory action measures surveyed included appropriate livestock and crop management, as well as health and sanitation actions taken to prevent or mitigate the negative effects of the unfolding drought. RIPA worked with its private sector partners, including animal health service providers, last mile input dealers and livestock traders to support household decision-making with respect to early action. RMS results demonstrate RIPA's impact on utilization of climate and early warning information:

7 https://www.mercycorps.org/sites/default/files/2024-02/ripa-north-learning-brief-5-climate-information-services-in-ethiopia-a-key-resilience-capacity-for-households-and-businesses-dec-2023.pdf

- **2023 RIPA to non-RIPA comparison:** In RIPA areas, 78% of households that accessed climate and early warning information used the information to take anticipatory action. This compares with 59% of households in non-RIPA areas, a significant difference of 19.6pp
- **Change over time:** Evidence of impact is further supported by change over time in both RIPA and non-RIPA areas. While both saw a statistically significant increase in utilization of climate information for anticipatory action, the degree of difference in RIPA areas was 19.6pp larger than non-RIPA areas.



2021	2023***	RIPA areas***	Non-RIPA areas***
differences between RIPA and non-RIPA not statistically significant	differences between RIPA and non-RIPA $p < .01$	change over time in RIPA areas statistically significant $p < .01$	change over time in non-RIPA areas statistically significant $p < .01$

Importantly, following the peak of the drought and at the time of the survey households that used climate and early warning information to take anticipatory action reported experiencing fewer shocks (2.3 shocks on average) than households who didn't take action (3.1 shocks on average).

Access to Market and Extension Information

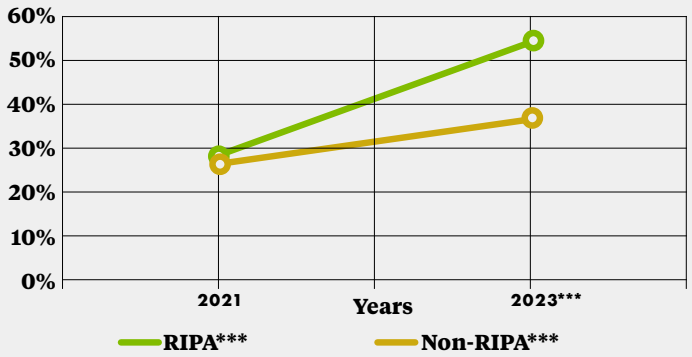
Theory of how the service impacts household resilience: *Access to information (e.g. agricultural extension services, climate advisories, market and price information) empowers livestock and crop producers to make informed and timely decisions to improve their livelihood management and decision-making about sales of outputs. This will increase productivity and incomes even in the face of shocks.*

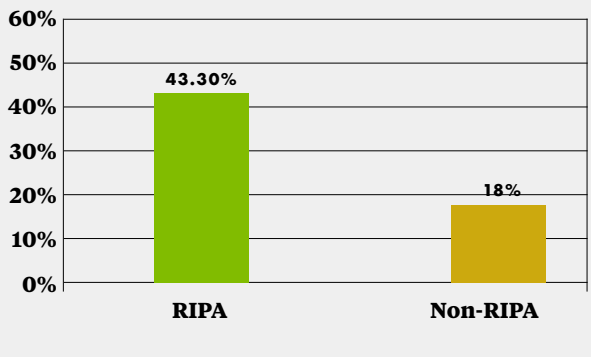
Key Finding: Households in RIPA areas were much more likely to access and use market and livestock information compared with households in non-RIPA areas and over time. Households with access to information were more likely to engage in positive anticipatory action, such as destocking before drought or haymaking in dry seasons.

Impact on access

Beyond climate and early warning information, the RMS asks households whether they accessed a range of other information, including market and extension information from a range of sources, including private sector-led digital information platforms that RIPA supported. There is strong evidence of RIPA's contribution to access to information:

- **2023 RIPA and non-RIPA comparison:** Households in RIPA areas had much higher access to all critical sources of information relative to non-RIPA areas. This included livestock extension services (43% compared with 18%); market information (56% compared with 38%); and climate and early warning information (31% compared with 20%).
- **Change over time:** While both RIPA and non-RIPA areas experienced a statistically significant increase in access to market information, the increase in RIPA areas was much larger in magnitude. RIPA households experienced an increase of 26.5pp for market information respectively, while non-RIPA areas' increase was only 9.8pp. The time comparison for livestock information services is not possible as this was a new question for 2023.





Access to market info

2021	2023***	RIPA areas***	Non-RIPA areas***
differences between RIPA and non-RIPA not statistically significant	differences between RIPA and non-RIPA p < .01	change over time in RIPA areas statistically significant p < .01	change over time in non-RIPA areas statistically significant p< .1

Livestock Information 2023***

differences between RIPA and non-RIPA p < .01

Impact on utilization

Utilization of information services is demonstrated by improved decision-making and practices related to livestock and crop management and sales. The 2023 RMS provides strong evidence that 'access to information' is linked to uptake of important resilience practices: An analysis of the links between access and use of information services across RIPA and non-RIPA areas reveals that households accessing information were:

- Two times more likely to destock before or during a drought compared with households without access to information.
- Three times more likely to purchase veterinary drugs from a private veterinary pharmacy (PVP) or Community Animal Health Worker (CAHW).
- Four times more likely to engage in hay making for an upcoming dry season.
- Five times more likely to restock during good seasons.

Rangeland and Disaster Risk Management (DRM)[8]

Theory of how the service impacts household resilience: *In communities where government and community institutions are providing improved rangeland and DRM services, households are more likely to be proactive in preparing for shocks and benefit from improved disaster mitigation measures and improved ecosystem services.*

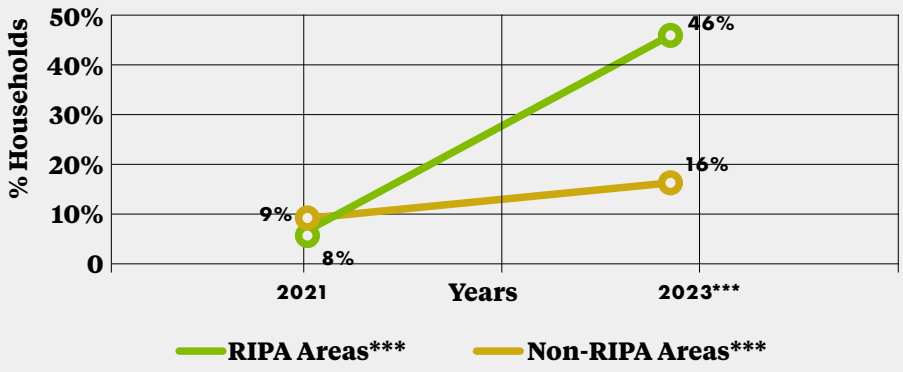
Finding: Populations in RIPA target areas were much more likely to be aware of, contribute to and implement rangeland and disaster risk management in their community, compared with non-RIPA areas.

Impact on access

RIPA used proxy indicators around household awareness of rangeland and DRM planning and management processes in their community to measure improved access to rangeland and DRM services. High levels of awareness are an indication that government and community institutions are active and are communicating and engaging households effectively. The RMS suggests RIPA has made a strong contribution to improved access to rangeland and DRM services:

- **2023 RIPA to non-RIPA comparison:** In 2023, more households in RIPA areas (45.9%) were aware of rangeland and/or DRM planning processes in their community than in non-RIPA areas (15.6% of households), a significant difference of 30.4%pp. This is despite a similar baseline level of awareness.
- **Change over time:** Evidence of RIPA's contribution is further supported by the fact that RIPA areas' increase over time was 30.4%pp higher than non-RIPA areas. Non-RIPA areas increase over time was marginal, just 6.5pp.

% OF HHS WHO ARE AWARE OF RANGELAND/DRM PLANNING AND MANAGEMENT PROCESSES



2021
differences between RIPA and non-RIPA not statistically significant

2023***
differences between RIPA and non-RIPA p < .01

RIPA areas***
change over time in RIPA areas statistically significant p < .01

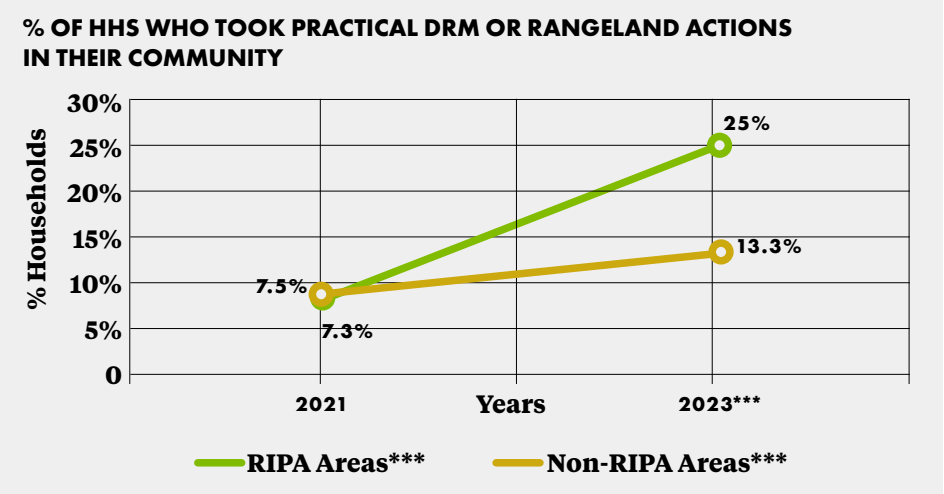
Non-RIPA areas***
change over time in non-RIPA areas statistically significant p< .01

8 For further analysis of how effective RIPA has been in strengthening government and community DRM and rangeland services, please refer to: 'Evidence Brief #4: Are communities and government driving improvements in DRM and rangeland management in the lowlands of Ethiopia: Evidence from the annual DRM/PRM Survey', Mercy Corps (April 2024)

Impact on utilization

Utilization of rangeland and DRM planning means that households are taking practical DRM actions and/or contributing to rangeland improvements in their community. The RMS analysis suggests RIPA had a large effect on households' and communities' utilization of rangeland and DRM planning.

- **2023 RIPA to non-RIPA comparison:** RIPA areas were 11.8% more likely to participate in community DRM or rangeland actions in 2023 over non-RIPA areas (25% v. 13.3%, respectively).
- **Change over time:** RIPA's apparent impact is further supported by a much higher increase in households taking practical DRM and rangeland actions in RIPA areas relative to non-RIPA areas over time. Households contributing to rangeland improvements or contributing to DRM measures increased by 17.7pp in RIPA areas and just 5.8pp in non-RIPA areas. The most common activities were invasive plant control, establishing community grazing reserves and participation in water conservation efforts.



2021 differences between RIPA and non-RIPA not statistically significant

2023* ** differences between RIPA and non-RIPA $p < .01$

RIPA areas* ** change over time in RIPA areas statistically significant $p < .01$

Non-RIPA areas* ** change over time in non-RIPA areas statistically significant $p < .01$

Access to Financial Services

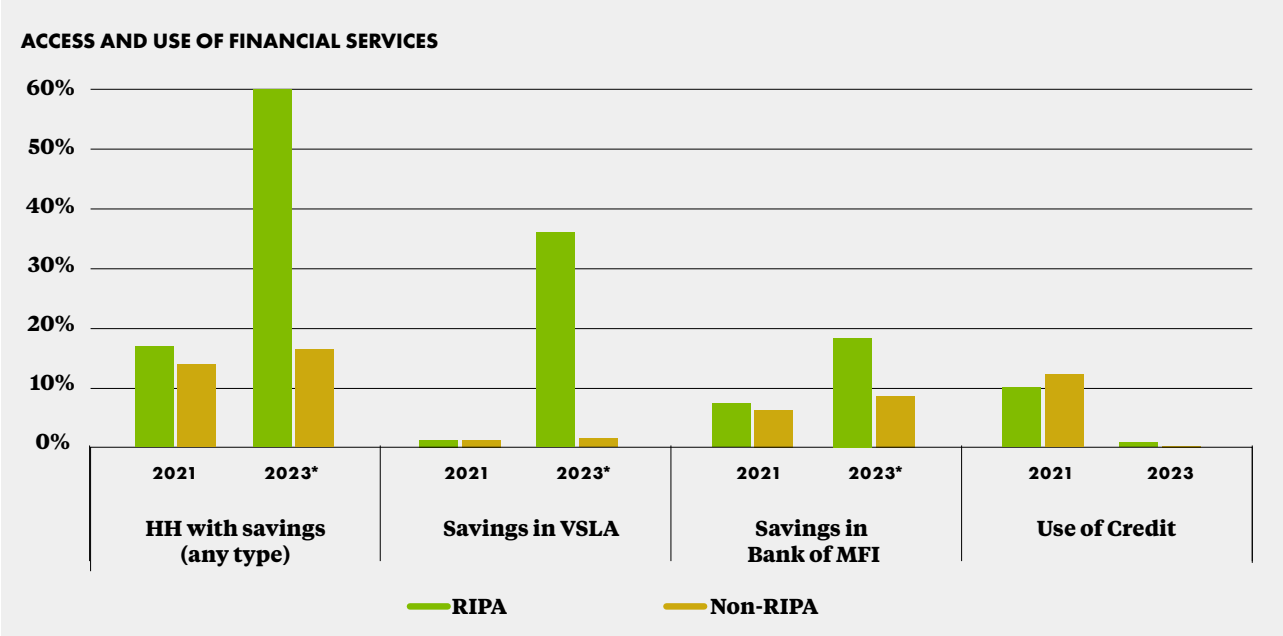
Theory of how the service impacts household resilience: *Membership of VSLAs and/or access to financial services improves financial literacy, financial management and social capital, and results in increased savings to cope with shocks and use of loans to invest in diversified incomes.*

Finding: Households in RIPA target areas had much higher rates of savings, including in Village Savings and Loan Associations (VSLAs) and formal financial institutions relative to non-RIPA areas.

Impact on access

The RMS provides evidence of RIPA's apparent impact on increased access to semi-formal financial services (VSLAs) and to formal financial services (banks or MFIs). RIPA capitalized on and further strengthened multi-year investments in the financial ecosystem[9] of previously unbanked or underbanked pastoral and agro-pastoral populations:

- **2023 RIPA to non-RIPA comparison:** Rates of savings in RIPA HHs were 42pp greater than in non-RIPA HHs. RIPA households were also much more likely to have savings in VSLAs (36% of HHs) and banks or MFIs (19%) v. non-RIPA HHs where rates of savings in VSLAs were just 1.3%, and savings in Banks or MFIs were at 8.9%.
- **Change over time:** Evidence of RIPA's contribution to financial service access is further supported by looking at change over time. RIPA areas saw a dramatic, 43 pp increase in the proportion of households with savings of any type, while non-RIPA areas' increase was only 3.7pp. In addition, percentage of households with savings in VSLAs increased from 1% in 2021 to 36% in 2023 in RIPA areas, while non-RIPA areas increased by only .4% and was not statistically significant. Access to savings products from formal financial institutions (banks / MFIs) also increased by 11.4%pp in RIPA areas. Non-RIPA areas' increase of 2.4pp and was not statistically significant.



2021
differences between RIPA and non-RIPA not statistically significant

2023*
differences between RIPA and non-RIPA p < .1

RIPA areas
showed statistically significant change over time for increases in savings p<.1

RIPA and non-RIPA
showed statistically significant decline in use of credit

Impact on utilization

Utilization of savings means that households are increasing the value of their savings over time, using their savings to diversify incomes, as well as to effectively cope during shocks. The RMS survey did not ask questions about

9 https://www.mercycorps.org/sites/default/files/2024-08/learning-brief-7-financial-services-in-the-lowlands-of-ethiopia-impacts-of-usaid-multi-phase-investment.pdf

the value of household savings or how households used savings during the drought so it's not possible to analyze these aspects. In future surveys it's recommended to include questions on these topics. Nonetheless, the RMS results demonstrate RIPA's apparent positive effects on household savings behavior based on the relationship between access and utilization: Households who were members of VSLAs were far more likely to use their savings for business start-up or expansion (29%) than households who were not members of VSLAs (12%).

Households were also asked if they used credit for a variety of needs, ranging from business start-up and expansion, to maintaining livestock and farm production, to school fees, health fees, food purchase and debt repayment.

- **2023 RIPA to non-RIPA Comparison:** Use of credit in 2023 were minimal in both RIPA and non-RIPA areas and differences were not statistically significant.
- **Change over time:** Use of credit declined dramatically in both RIPA and non-RIPA areas, likely owing to the negative effects of the prolonged drought. Households would have likely exhausted both formal and informal lending mechanisms.

Livestock and Farm Inputs

Theory of how the service impacts household resilience: *Access to veterinary services enables households to prevent and mitigate animal disease outbreaks, while access to feed and fodder contributes to households' ability to maintain herds and productivity during dry season and droughts. Access to farm inputs (seeds, fertilizer, pesticides) helps agro-pastoralists to increase farming productivity and withstand shocks such as pests and crop disease.*

Finding: RIPA supported households were more likely to purchase critical livestock (veterinary medicines and feed/fodder) and farm inputs (improved seeds, fertilizers, and farm tools) relative to non-RIPA households.

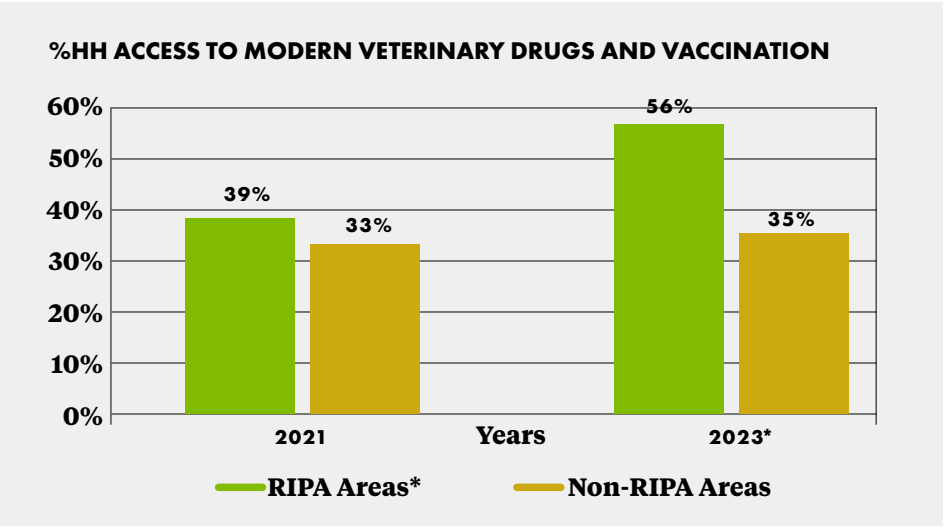
Impact on access

RIPA's market systems-based approach facilitated agent-networks that extended sales of quality agricultural inputs to last mile communities.[10] The RMS demonstrates RIPA's apparent impact on households' access to both livestock and farm inputs:

Modern veterinary drugs and vaccination:

- **2023 RIPA and non-RIPA comparison:** RIPA areas were 21 pp more likely to purchase veterinary inputs relative to non-RIPA areas in 2023. Access was 56% for RIPA areas and 35% for non-RIPA areas.
- **Change over time:** Households in RIPA areas saw a statistically significant increase in the purchase of modern veterinary drugs, from 39% of households in 2021 to 56% in 2023. The increase in non-RIPA areas was a mere 2% and was not statistically significant.

10 https://dldocs.mercycorps.org/EnhancingIncomesResiliencePastoralistsEthiopiaRIPA.pdf



2021 differences between RIPA and non-RIPA not statistically significant

2023* differences between RIPA and non-RIPA $p < .10$

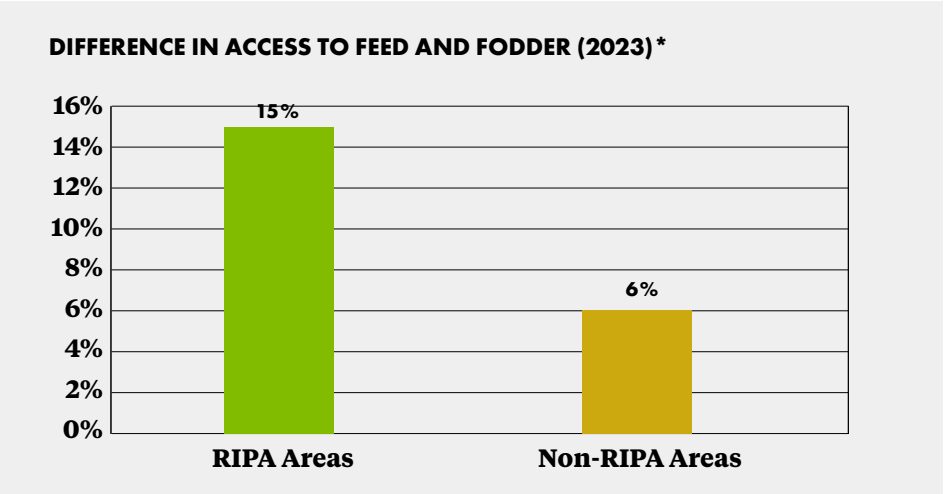
RIPA areas* change over time in RIPA areas statistically significant $p < .1$

Non-RIPA areas change over time in non-RIPA not statistically significant

Feed and Fodder:

2023 RIPA and non-RIPA comparison: Survey results show that more than twice as many households in RIPA areas purchased feed and fodder relative to non-RIPA areas (15% v. 6% respectively). This will be a particularly interesting data point to monitor in future surveys, since lack of easy and affordable access to feed and fodder is a major constraint to pastoralist resilience and development actors have historically achieved very little success in changing this in the lowlands of Ethiopia.

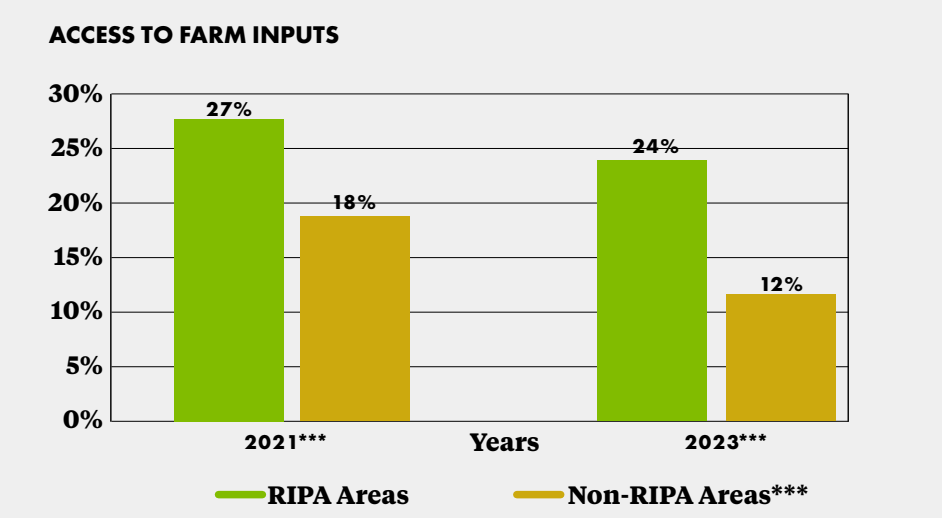
Change over time: The 2021 and 2022 rounds of the RMS did not ask questions about purchases of feed or fodder, so it's not possible to assess change over time.



2023* difference between RIPA and non-RIPA statistically significant $p < .1$

Farm inputs:

- **2023 RIPA and non-RIPA comparison:** Purchase of farm inputs in 2023 in RIPA areas was double the percentage in non-RIPA areas (24 v. 12%). This suggests RIPA households were more prepared to engage in agriculture towards the end of the prolonged drought, or at the time of the survey.
- **Change over time:** Non-RIPA areas saw a 6pp statistically significant decrease in the purchase of farm inputs from 2012-2023, while the decrease in RIPA areas was only 3pp and not statistically significant, suggesting access to inputs was essentially maintained throughout the drought period. Nonetheless, it is assumed that severe drought affected households' ability to engage in the agricultural season.



2021***	2023***	RIPA areas	Non-RIPA areas***
differences between RIPA and non-RIPA statistically significant $p < .01$	differences between RIPA and non-RIPA statistically significant $p < .01$	change over time in RIPA areas not statistically significant	change over time statistically significant $p<.01$

Impact on utilization

Utilization of livestock and farm inputs means households are using their purchases effectively and this contributes to improved livestock and crop productivity. Evidence in this regard is thus also a factor of 'quality' services, such as effective veterinary drugs and improved seeds, and also business services that provide guidance and advice to customers as an embedded service. This analysis was not conducted on the 2023 RMS survey data. Future rounds will ensure questions and analysis are conducted related to this relationship.

Access to Markets

Theory of how the service impacts household resilience: *Improved ability to access markets to sell livestock, livestock products and crop harvests empowers pastoralists and agro-pastoralists to improve decision-making about sales and enhances their bargaining power. This results in better prices for sales while also incentivizing a shift to more market-based production and sales, contributing to increased income for households.*

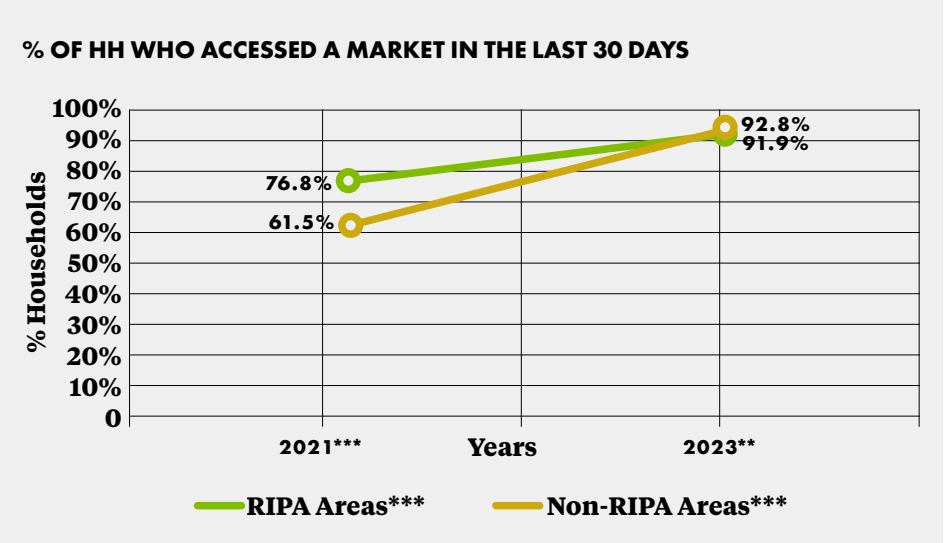
Finding: Access to markets increased in both RIPA and non-RIPA areas, with both areas reaching nearly universal access, while households with access to markets demonstrated increased likelihood of key positive marketing practices, such as fattening animals before sale.

Impact on access

The RMS question explored whether a household accessed a market either through physically attending an open market in the last 30 days, or connecting to a livestock network:

- **2023 RIPA and non-RIPA comparison:** Both RIPA and non-RIPA areas demonstrated nearly universal access to markets, 92 and 93%, respectively.

- **Change over time:** There is a statistically significant, positive increase in access to markets in RIPA and non-RIPA areas, with the rate of increase in non-RIPA areas higher than RIPA.



2021* ** differences between RIPA and non-RIPA statistically significant p < .01	**2023** differences between RIPA and non-RIPA statistically significant p < .05	**RIPA areas*** ** change over time in RIPA areas statistically significant p < .01	**Non-RIPA areas*** ** change over time statistically significant p<.01

The apparent universal access to physical markets or a livestock network in both RIPA and non-RIPA areas, and higher rate of increase in non-RIPA areas has two possible explanations. First, the 2021 survey was taken shortly following a lift of Ethiopia's COVID-related State of Emergency, and worsening drought. Increased physical market presence in 2023 and just following the drought was likely due to a gradual return to regular activity. Second, given that non-RIPA areas had a statistically significant and sizeable lower rate of market access than RIPA areas in 2021, the results point to a possible spillover effect of livestock market networks from RIPA into non-RIPA areas, a likely outcome of the intense efforts to build broadly inclusive livestock markets, as described in RIPA's technical brief on 'vertically integrated livestock supply chains'.[11] A key feature of this intervention is partnering with woreda or district-level traders to build a network of village level livestock-buying agents, or 'mini-collectors.' The model has been independently evaluated and has proven one of the most successful in terms of scale, resulting in very large increases in purchases of sheep and goats by local traders in remote RIPA's intervention areas.[12] Qualitative inquiry and program data have revealed significant 'spillover effects' in terms of local traders engaging mini-collectors and purchasing from bush markets in non-RIPA areas. As described in the brief: "A positive sign that the [livestock market]

11 https://dldocs.mercycorps.org/EnhancingIncomesResiliencePastoralistsEthiopiaRIPA.pdf
12 ibid

intervention is having a knock-on effect on the wider system is that five regional traders have 'crowded-in' and independently replicated the model."

Impact on utilization

Utilization of 'market access' means households that have market access are able to make better decisions about livestock sales and therefore secure better prices for animals sold, while also adopting practices that improve their ability to engage effectively with markets. The RMS did not collect data on price information of livestock sold. This is an area that will require exploration in follow-up surveys.

Livestock Management Practices

Theory of how the service impacts household resilience: *Adoption of improved livestock management practices such as de-stocking before drought, haymaking prior to the dry-season and fattening animals before sale will contribute to improved productivity and incomes and help pastoralist and agro-pastoralist households cope during shocks.*

Finding: Households in RIPA target areas were more likely to have recently adopted livestock management practices that positively impact production and resilience outcomes, relative to households in non-RIPA areas.

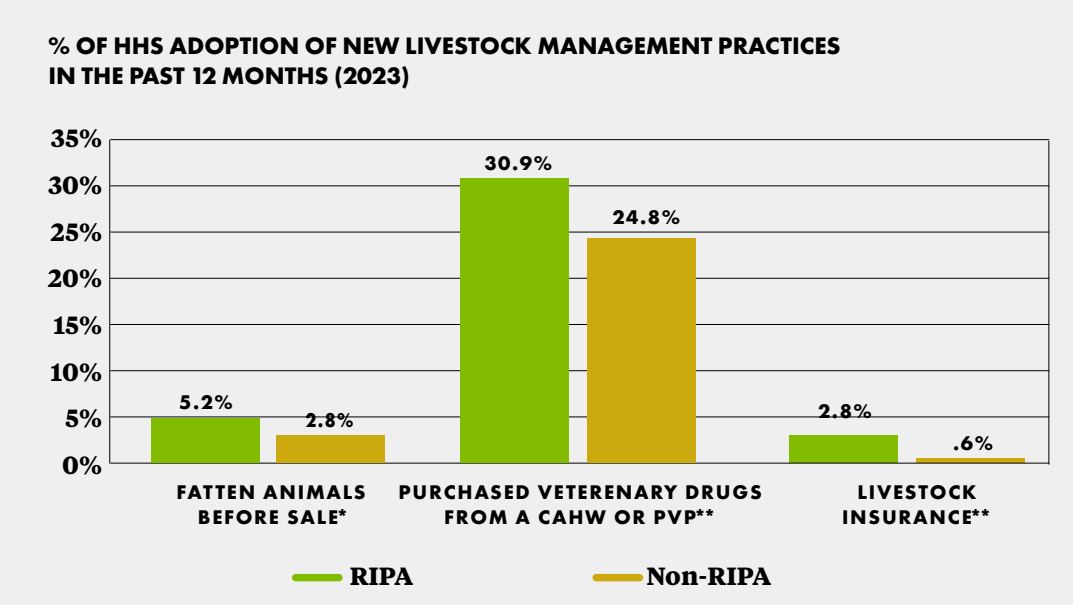
Impact on access

Numerous complex factors influence household decision-making around livestock management. Access to a single resilience-enhancing service is unlikely to drive this change. Nevertheless, a combination of several resilience-enhancing services that RIPA fosters likely contribute to change in practices. These include the digital extension services, vertically integrated livestock trading systems and climate information services, access to which, as noted in earlier results, have generally shown a positive result in RIPA areas over time and relative to non-RIPA areas.

Impact on utilization

RMS results highlight RIPA's contribution to positive livestock management practices:

- **2023 RIPA and non-RIPA areas:** Across several different livestock management practices, there were slightly higher, and statistically significant, adoption rates in RIPA areas than in non-RIPA areas.
- **Change over time:** The questions in the survey are framed around 'newly adopted' practices in the past 12 months, rather than which practices households regularly use. For this reason, a comparison between years is not meaningful. In future surveys, RIPA will re-frame the questions about livestock management practices in terms of levels of usage, in addition to levels of recent adoption, which will allow for comparisons over time.



2023 RIPA and non-RIPA differences statistically significant:
Fattening animals for sale: p<.1
Purchased vet drugs p<.05
Livestock insurance p<.05

Nutrition and Hygiene Practices

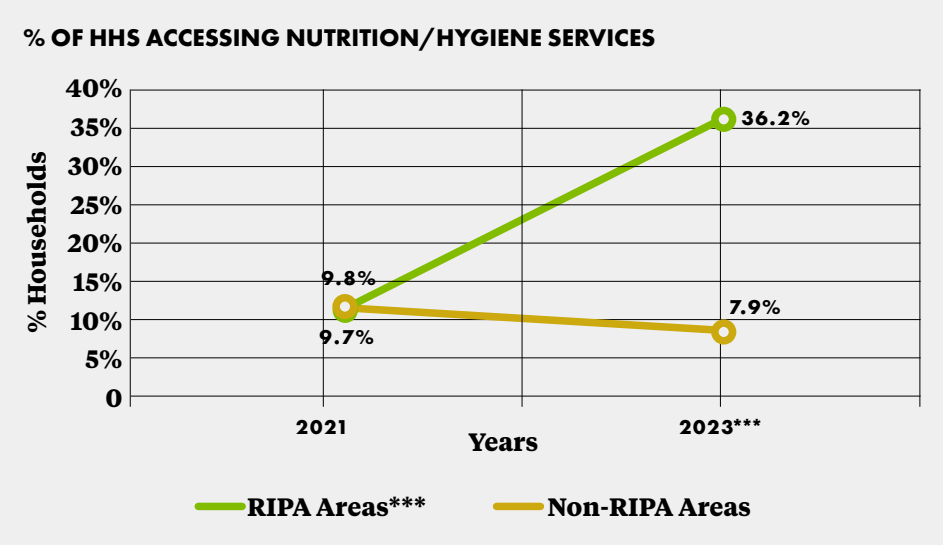
Theory of how the service impacts household resilience: *Access to community nutrition services (e.g. counselling in health facilities, mother-to-mother support groups or permagarden training) provides households with information, skills and resources to adopt improved nutrition and hygiene practices that result in better food security and nutrition outcomes in shock-affected environments.*

Finding: Household in RIPA areas saw a large uptake of nutrition-related services and practices over time, and relative to non-RIPA areas.

Impact on access

The RMS shows that RIPA has contributed to substantial improvements in access to nutrition services in target areas:

- **2023 RIPA and non-RIPA comparison:** Access to nutrition services was 28.3pp higher in RIPA areas than in non-RIPA areas.
- **Change over time:** Access to nutrition services in RIPA areas increased from 9.7% in 2021 to 36.2% in 2023, a difference of 26.4pp, while service access decreased in non-RIPA areas and was not statistically significant.



2021
differences between RIPA and non-RIPA not statistically significant

2023***
differences between RIPA and non-RIPA statistically significant p < .01

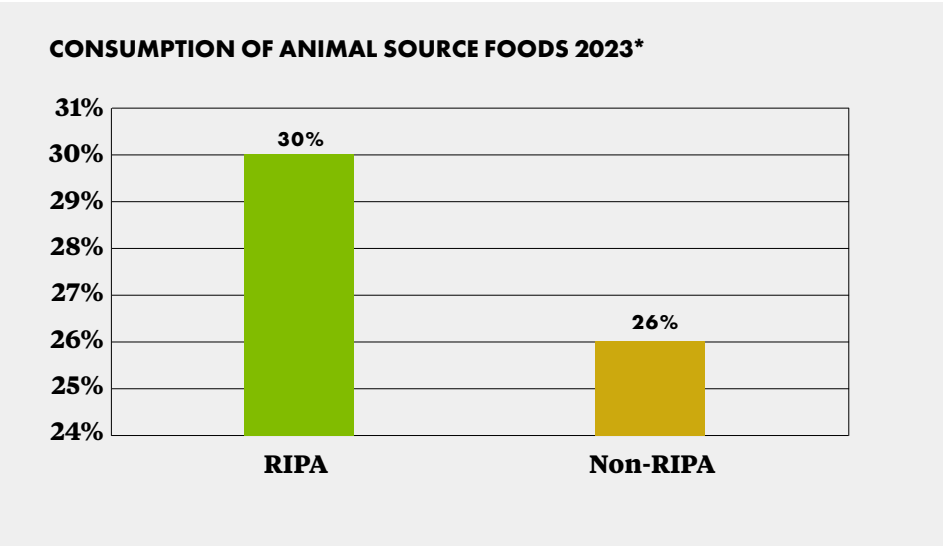
RIPA areas***
change over time in RIPA areas statistically significant p < .01

Non-RIPA areas***
change over time statistically significant p<.01

Impact on utilization

Utilization of this resilience capacity means households are practically adopting improved nutrition and hygiene practices. The RMS highlights RIPA's apparent contribution to utilization, for the practices for which data is available:

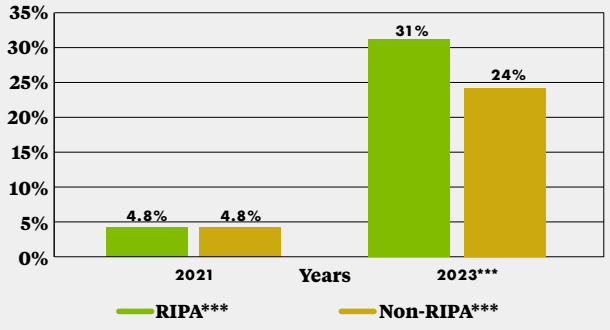
- **2023 RIPA and non-RIPA comparison:** Households in RIPA areas are 7.3pp and 9.9pp more likely to have a handwashing station and adopt at least three hygiene behaviors, respectively, relative to non-RIPA areas. In addition, RIPA HHs are 4% more likely to consume animal sourced foods.



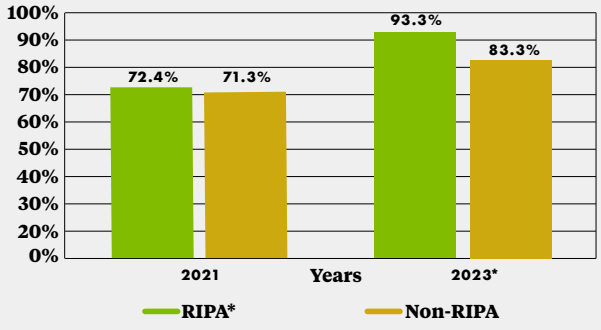
2023* difference between RIPA and non-RIPA statistically significant p < .1

› **Change over time:** Both RIPA and non-RIPA areas saw a statistically significant increase in the proportion of households with a handwashing station, but the increase in RIPA areas was higher (26pp v.18pp). Only RIPA areas showed a statistically significant increase in adopting at least three hygiene behaviors over time. It was not possible to analyze the data on nutrition behaviors and exclusive breast feeding, so this is something that will need to be addressed in the next RMS in May 2025.

HOUSEHOLD HAS HANDWASHING STATION



HOUSEHOLD ADOPTS AT LEAST 3 HYGIENE BEHAVIORS



Household has handwashing station

2021 differences between RIPA and non-RIPA not statistically significant

2023* ** differences between RIPA and non-RIPA statistically significant p < .01

RIPA* ** areas change over time in RIPA areas statistically significant p < .01

Non-RIPA areas* ** change over time statistically significant p<.01

Household adopts at least 3 hygiene behaviors

2021 differences between RIPA and non-RIPA not statistically significant

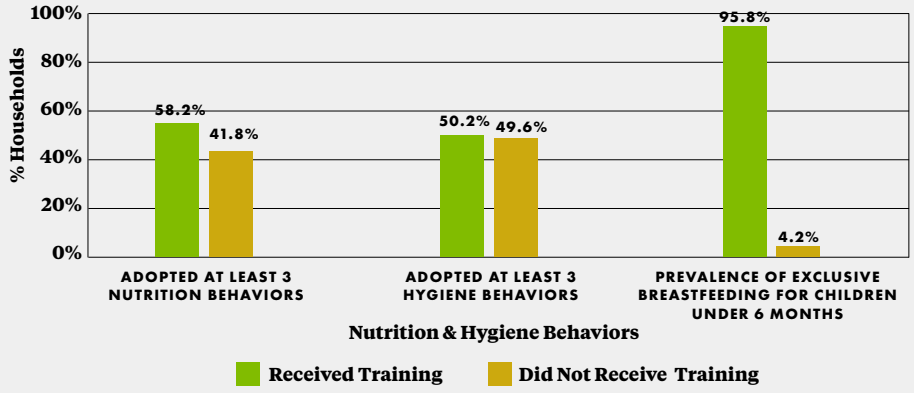
2023* differences between RIPA and non-RIPA statistically significant p < .1

RIPA* areas change over time in RIPA areas statistically significant p < .1

Non-RIPA area change over time not statistically significant

RMS results also show that households who received training on nutrition and hygiene, so had access to the service, were much more likely to adopt at least three nutritional behaviors (58%) than households without access to services (42%). The training was also associated with a dramatically higher likelihood of exclusive breastfeeding (96% of households), compared with households that didn't access services (4% of households). On the other hand, access to nutrition and hygiene services does not appear to have made a difference on adoption of hygiene practices, which were at similar levels across those who did and did not receive the training.

% OF HHS ADOPTING NUTRITION/HYGIENE BEHAVIORS



Community Institutions and Social Capital

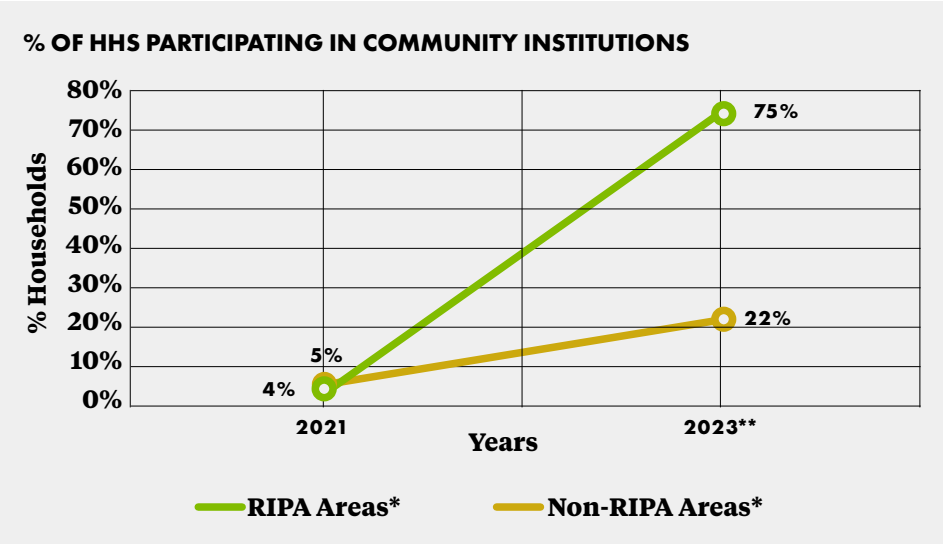
Theory of how the service impacts household resilience: *Participation in community institutions (e.g. community nutrition groups, rangeland councils, VSLAs) can foster improved social capital for members in terms of networks within groups ('bonding' social capital) and networks with other groups ('bridging' social capital). Social capital has among the strongest evidence base for impact on household resilience.*

Finding: Households in RIPA target areas were more likely to participate in community institutions compared with households in non-RIPA areas though this has not yet resulted in a discernible improvement in social capital outcomes.

Impact on access

The RMS asks households about whether they participate in a variety of community institutions. Some of these are catalyzed by RIPA, such as mother-to-mother support groups established by the Bureau of Health or rangeland councils established by woreda government offices with facilitation support from RIPA. Other institutions have not been supported directly by RIPA interventions, such as women's groups or youth groups. RIPA has had a discernible positive effect on HHs participation in a range of community institutions:

- **2023 RIPA and non-RIPA comparison:** Participation in community institutions is 53% higher in RIPA areas (75%) than in non-RIPA areas (22%), despite participation in RIPA areas being slightly lower at the point of the baseline in 2021.
- **Change over time:** Participation in community institutions increased dramatically in RIPA areas, from 4% of households in 2021 to 75% of households in 2023, while the increase in non-RIPA areas was only 17%.



2021	2023**	RIPA*	Non-RIPA areas*
differences between RIPA and non-RIPA not statistically significant	differences between RIPA and non-RIPA statistically significant $p < .05$	areas change over time in RIPA areas statistically significant $p < .1$	change over time statistically significant $p<.1$

Impact on utilization

Different community institutions have different benefits for participants. This analysis focuses on one aspect of utilization, which is whether households have been able to foster social capital through their participation. The RMS provides 'no evidence' that households have improved their social capital through participation in community institutions:

- **Comparison with non-RIPA areas:** Social capital scores are higher in RIPA areas than non-RIPA areas for both 'bonding' and 'bridging' social capital, however these findings are not statistically significant. Social capital takes time to foster so it will be interesting to track this change in future surveys, given the much higher participation in community institutions in RIPA areas than in non-RIPA areas.
- **Change over time:** It's not possible to compare change in social capital in RIPA areas over time due to lack of data for 2021.

Women's Empowerment

Theory of how this impacts household resilience: *Women's empowerment is both a resilience capacity and a well-being outcome. When women are empowered in terms of participation in decision-making and access to key resources and services, the household is better positioned to make informed decisions and cope and adapt to shocks.*

Finding: There is no evidence from the RMS that RIPA had contributed to an improvement in women's empowerment at population level by May 2023.

RIPA has a strong focus on gender integration and transforming gender social norms. The RMS measures two dimensions of women's empowerment: the Household Decision-Making Index (HDMI) and the Women Empowerment Index (WEI).

Across the two dimensions, there is no evidence from the RMS that RIPA has positively impacted Women's Empowerment in RIPA target areas. On the one hand this is unsurprising, given these are entrenched cultural norms and perceptions that take time to change, and two years (between 2021 and 2023) is a short timeframe to have a population-level impact. On the other hand, the lack of evidence related to women's empowerment contradicts RIPA's Gender Outcome Mapping Study,[13] which found strong evidence of women's empowerment change, concluding that "The findings indicate very positive signs of progress, with almost 75% of women reporting 'high' or 'medium' levels of change for all eight main categories of gender norm that pose a challenge for women's participation and gender equity". The explanation for this difference is likely that the Gender Outcome Mapping Study was specifically focused on direct participants in RIPA's Social Analysis and Action (SAA) process, whereas the RMS was a population-wide survey. It seems that RIPA approaches have been successful in empowering women participating directly in the process, but this is not yet cascading to the wider community and/or is at too small scale to result in detectable population-level impact.

Household Decision Making Index (HDMI)

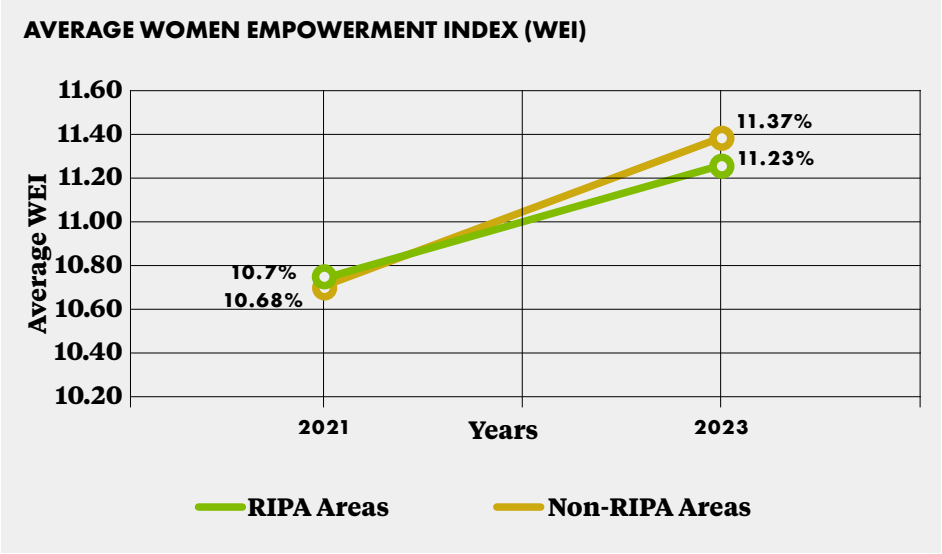
Women's decision-making power within the household is one key aspect of gender equality. The Household Decision Making Index (HDMI) measures the level of women's involvement in household decision-making across nine dimensions, such as consumption, expenditure and reproductive choices. A higher score in the HDMI

13 Evidence Brief #1: Is RIPA transforming restrictive gender norms? Evidence from the 'Gender Outcome Mapping' Study, Mercy Corps (December 2023)

equates to increased involvement in decision-making. There is 'no evidence' that RIPA has impacted women's empowerment with respect to decision-making power. The degree of change is extremely small across all variables and is not statistically significant in comparing HDMI over time and across RIPA and non-RIPA areas.

Women Empowerment Index (WEI)

The Women Empowerment Index (WEI) measures household-level perceptions of women's empowerment across 18 dimensions. There is no evidence that RIPA has impacted WEI in target areas as the degree of change is extremely small for all variables and there is no statistically significant difference in RIPA areas over time or in comparison with non-RIPA areas.



Evidence of RIPA Impact on Food Security Outcomes

Finding: RIPA's high and medium intensity areas, characterized by layered and integrated, systems-strengthening interventions, had a positive and statistically significant impact on multiple dimensions of food security as compared to low intensity or non-RIPA areas. Results show mixed effects when comparing all RIPA areas combined and non-RIPA areas overall.

The RMS included three food security indicators: the reduced coping strategies index (rCSI)[14]; the Household Hunger Score; and the household dietary diversity score, as measures of RIPA's achievement of its goal, or household well-being overtime.

The RMS demonstrated mixed effects of RIPA's systems-strengthening approach on HH food security outcomes when comparing all RIPA areas combined with non-RIPA areas. Overall, RIPA had a positive

14 The Reduced Coping Strategies Index (rCSI) is a proxy indicator of household food insecurity. It considers both the frequency and severity of five pre-selected coping strategies that the household used in the seven days prior to the survey. It is a simplified version of the full Coping Strategies Index indicator (hence the word 'reduced'). A high score means an extensive use of negative coping strategies and hence increased food insecurity.

effect on the Household Dietary Diversity (HDDS), a marginal positive effect on household coping strategies, and no apparent impact on Household Hunger Scale (HHS) as compared with non-RIPA areas. The findings suggest that RIPA's systems-strengthening approach only partially translated into improved well-being after 18 months of implementation and following drought.

RIPA contributed to consistent positive effects on multiple dimensions of food security when higher intensity areas were compared with lower intensity areas of intervention. The biggest differences in food security are seen in RIPA 'high intensity' (four or more interventions) and 'medium intensity' (two to three interventions) areas, where households were more likely to access multiple 'resilience-enhancing services' fostered by RIPA's systems-strengthening approach, as compared to low-intensity or non-RIPA areas. Low and non-intensity areas had worse results across all measures, signifying higher food insecurity. Overall, high and medium intensity areas had a positive effect on Household Dietary Diversity and the Household Hunger Scale. High intensity interventions only had a positive effect in the Somali Region, likely due to variation in timeframe of implementation.

Table 6: Evidence supporting RIPA's impact on measures of food security

Food Security Measures of Well-Being	RIPA v. non-RIPA (2023)	High/Medium Intensity v. Low and non-Intensity (2023)
Reduced Coping Strategies Index	+	++
Household Hunger Scale	No effect	++
Household Dietary Diversity	++	+

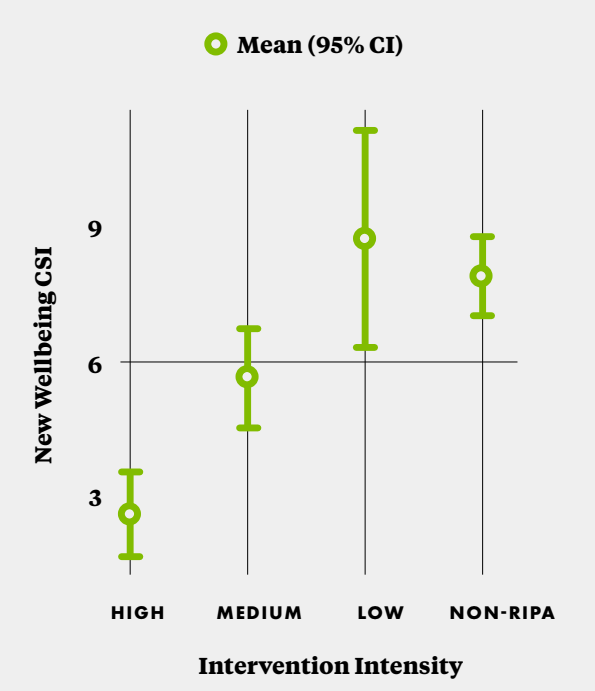
Reduced Coping Strategies Index (rCSI)

RMS results highlight mixed effects of the RIPA program on negative coping strategies. The rCSI measures the frequency and severity of five food security-related negative coping strategies used in the seven days prior to the survey. A higher score means more negative coping strategies and therefore more food insecurity. The RMS reveals mixed effects on RIPA's approach to a reduction in rCSI at the end of the drought.

RIPA and non-RIPA Comparison: Comparing all RIPA areas to non-RIPA suggests no real effect of the program on rCSI immediately following the drought. While RIPA areas' rCSI scores were slightly lower than those of non-RIPA areas at the time of the survey, both RIPA and non-RIPA areas decreased largely along the same trajectory suggesting external factors contributed to a reduction of rCSI scores, likely linked to the end of pandemic emergency measures.

Comparison by intervention intensity: High and medium RIPA intensity areas showed statistically significant reductions in rCSI scores relative to low intensity and non-RIPA areas.

Regional Comparison: In Somali Region there was a further reduction in rCSI, or use of negative food security coping strategies. For example, the rCSI was by far the lowest in 'high' intensity RIPA areas in Somali Region,



where households were more likely to have accessed multiple 'resilience-enhancing services', and the rCSI was much higher in 'low' intensity areas and non-RIPA areas, with the 2023 differences being statistically significant. Regional variation is likely due to a stronger institutional enabling environment in the Somali Region relative to other areas.

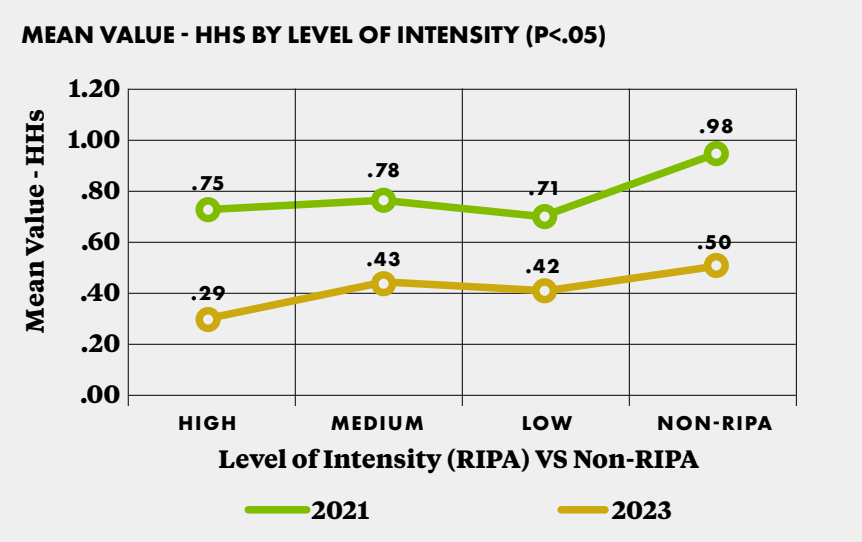
Household Hunger Scale (HHS)

The HHS measures the scale of households' food deprivation, focused on food quantity, not quality. RMS results highlight a mixed effect on this measure of food security.

RIPA and non-RIPA Comparison: There was no statistically significant improvement in HHS when comparing all RIPA target areas with non-RIPA areas.

Comparison by intervention intensity: Differences by program intensity pointed towards the effectiveness of layered interventions. High intensity RIPA intervention areas had by far the lowest HHS outcomes (indicating higher food security), followed by areas with 'medium' and 'low' intensity interventions, while the highest HHS (i.e. food insecurity) were in non-RIPA comparison areas. The difference between 'high and medium intensity' intervention areas compared to low and non-RIPA areas were statistically significant in 2023 ($p<0.01$).

Regional Variation: Regional disaggregation showed that high-intensity interventions in the Somali Region had by far the lowest HHS relative to non-RIPA areas, while the differences in Afar and Oromiya had mixed effects. This is consistent with a stronger enabling institutional environment in Somali Region.



Household Dietary Diversity Score (HDDS)

The HDDS measures the average number of different food groups consumed by the household, with a higher HDDS representing better food security and a lower HDDS representing worse food security. RIPA has increased the HDDS (i.e. improved dietary diversity) in target areas.

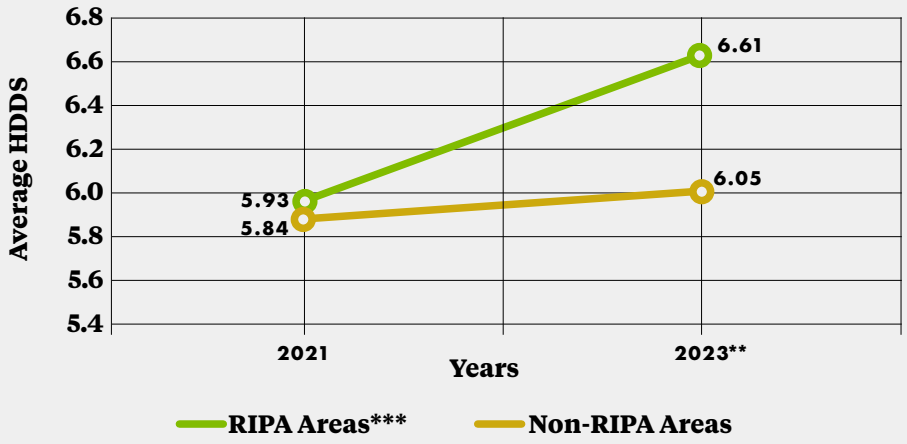
RIPA and non-RIPA comparison: The HDDS in RIPA areas in 2023 was higher than in non-RIPA areas, with the difference being statistically significant. The degree of change over time in RIPA areas was also larger than in non-RIPA areas, and the change in non-RIPA areas did not show statistical significance.

Comparison by intervention intensity: Disaggregating by intensity, high and medium intensity RIPA areas had higher HDDS relative to low and non-RIPA areas at the end of the drought, with the differences being statistically significant.

Regional Variation: The improvement in HDDS in RIPA areas compared with non-RIPA areas was most pronounced in Somali and Oromia regions, whereas in Afar region there was no statistically significant difference, suggesting RIPA has not yet been able to impact this dimension of food security in Afar region.

While only Household Dietary Diversity had a large, statistically significant positive effect when comparing all RIPA areas to non-RIPA, rCSI and HHS scale demonstrated positive effects of the RIPA program when comparing high and medium intensity RIPA areas with low and non-intensity RPA areas. The results suggest that resilience-enhancing services translate into improved well-being in a relatively short amount of time, even during a prolonged shock, so long as households are able to access multiple services to manage risk.

AVERAGE HDDS BY RIPA AND NON-RIPA AREAS BETWEEN 2021-2023



2021 differences between RIPA and non-RIPA not statistically significant

2023** differences between RIPA and non-RIPA statistically significant $p < .05$

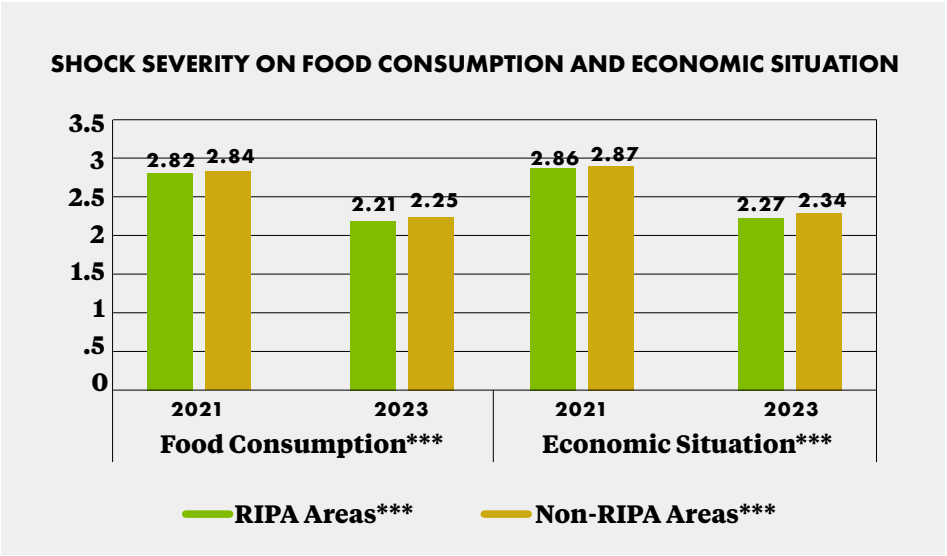
RIPA*** areas change over time in RIPA areas statistically significant $p < .01$

Non-RIPA areas change over time not statistically significant

Shock Exposure of Households

The RMS collects information on the types of shocks that impacted households over the preceding twelve months, including the severity of the shocks on households' food consumption and economic situation and the degree to which they have recovered.

- **Shock frequency:** The 2023 RMS found that households in RIPA target areas experienced an average of 2.30 shocks over the preceding 12 months, and this was almost identical in non-RIPA areas (2.27 shocks on average). The three predominant shocks were: i) insufficient rainfall / drought; ii) food price increases; and iii) livestock diseases. It's notable that in RIPA and non-RIPA areas the average number of shocks in 2023 had decreased from 2.84 shocks in RIPA areas and 2.94 shocks in non-RIPA areas in 2021.
- **Shock severity:** Households self-reported shock-severity, with 1 being not severe, and 4 being extremely severe. In 2023 the severity of impact of shocks was very similar in RIPA and non-RIPA areas for both food consumption and economic situation. While the average score of 2.2 is still high, it represents a significant reduction compared with 2021, with the biggest, statistically significant improvement being in RIPA areas.



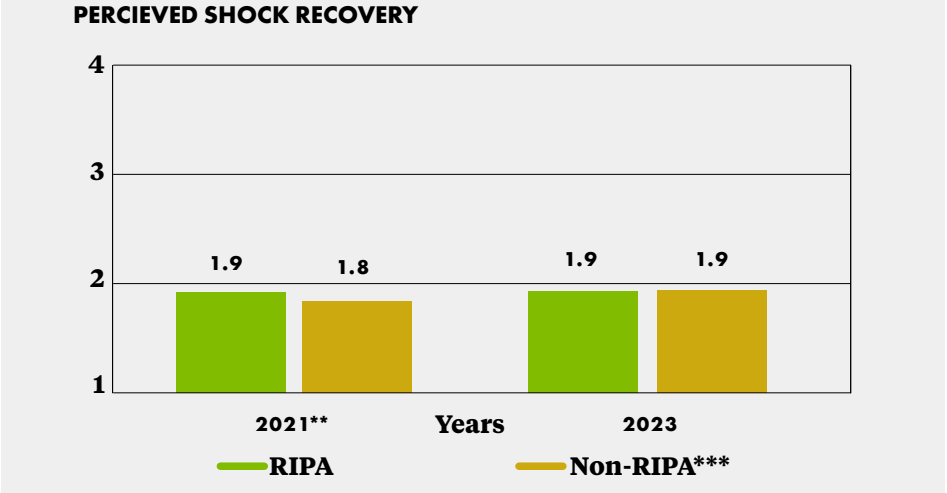
Food Consumption* ** severity statistically significant RIPA v. non-RIPA difference in 2023 $p < .01$

Economic Situation* ** severity statistically significant RIPA v. non-RIPA difference $p < .01$

RIPA* ** areas change over time in RIPA areas statistically significant $p < .01$

Non-RIPA areas* ** change over time statistically significant $p<.01$

› **Shock recovery:** Households in RIPA and non-RIPA areas both perceived that they are struggling to recover in terms of food consumption, with an average self-reported score of 1.9 in 2023 (on a scale where 1 is 'not recovered at all', 2 is 'somewhat recovered', 3 is 'fully recovered to the level before the shock' and 4 is 'better than before the shock'). This is not surprising, given the severe drought affecting Somali and Oromia regions only came to an end with the arrival of better-than-average rains in April 2023. Despite the low perceptions of recovery, households in high-intensity RIPA areas demonstrated relatively better food security across multiple measures, and overall greater access and use of resilience capacities compared to non-RIPA areas. Mercy Corps is finalizing a complementary in-depth impact evaluation to better determine differences around economic and social recovery related to shocks.



2021 * differences between RIPA and non-RIPA statistically significant $p < .1$

2023 differences between RIPA and non-RIPA not statistically significant

RIPA areas change over time not statistically significant

Non-RIPA* ** areas change over time statistically significant $p < .01$

Findings Summary

RIPA's systems-strengthening interventions contributed to sizeable increases in access and use of multiple resilience-enhancing services, or sources of resilience, in comparison to non-RIPA areas and over time. The RMS demonstrated significant positive effects on nearly all sources of resilience just 18 months into implementation and following a long, historic drought. Compared to non-RIPA areas, households in RIPA areas had higher levels of access to nearly all services targeted by the program: climate, market and extension information, rangeland and DRM management services, formal and semi-formal financial services, livestock and farm inputs, and nutrition and hygiene services.

RIPA contributed to consistent positive effects on multiple dimensions of food security when higher intensity areas were compared with lower intensity areas of intervention. While the RMS demonstrated mixed effects on food security when all RIPA was compared with non-RIPA, the RMS found larger and consistent positive effects on rCSI, HHS and HDDS in RIPA high and medium intensity areas, where households are more likely to access multiple 'resilience-enhancing services' compared to low-intensity or non-RIPA areas. These results underscore the effectiveness of RIPA's integrated, layered systems-strengthening only 18 months into implementation and in the midst of drought.

Decentralized and diverse sources of information coupled with knowledge of resilient management practices are linked with anticipatory action during drought, and reduced shocks. Households with access to climate and early warning information were more likely to engage in positive anticipatory action, such as destocking before drought or haymaking in dry seasons. In RIPA areas, 78% of households that accessed climate and early warning information used the information to take anticipatory action, compared with 59% of households in non-RIPA areas. In addition, households that used climate and early warning information to take anticipatory action reported experiencing fewer shocks (2.3 shocks on average) than households who didn't take action (3.1 shocks on average).

RIPA's systems-strengthening interventions may have contributed to a spillover effect on non-RIPA communities. Non-RIPA households also demonstrated increased access and use of key resilience capacities between 2021 and 2023, albeit at a much lower rates than RIPA households. This was particularly true for capacities where RIPA enabled service delivery through the private sector and government-led services. Qualitative analyses tracked independent investments by 24 new businesses in RIPA-supported sectors, which replicated or built upon RIPA-supported businesses. In line with predicted systems intervention effects, these findings point to a potential spill-over effect in service provision from RIPA to non-RIPA areas.

Credit: Mercy Corps / Yosef Tiruneh / Ethiopia / 2023

Support from RIPA did not appear to contribute to significant differences in several indicators of women's empowerment and social capital on a population level. These dimensions of resilience appear to require more time and a more comprehensive approach to achieve sustained population-level impact in the lowlands.

Conclusion and Recommendations

Overall, the RMS findings illustrate how systems interventions, which facilitate service delivery through market actors and government service providers, can have a sizeable impact on household resilience and food security effects in the midst of crisis if intensively layered and integrated. RIPA areas that received a high dosage of interventions—facilitating access to multiple, diverse resilience-enhancing services—demonstrated a sizeable effect on nearly all critical sources of resilience and multiple dimensions of food security just 18 months into implementation. Based on these findings, we provide the following recommendations:

- USAID should double-down on its strategy of concentrating systems strengthening interventions in zones of influence, while increasing multi-year development programming in areas of recurrent and protracted crises.
- Donors and implementing partners should coordinate and increase attention to market systems development and governance systems strengthening that both support and diversify livestock-based economies in fragile lowland contexts, focusing on diverse income choices and services access.
- Pastoralism and livestock systems merit increased donor investments — including a focus on last mile market access and private sector led service provision — given their demonstrated adaptive capacity during prolonged droughts.
- Donors and implementing partners should increase investments in decentralized and diverse climate, market and extension information sources, including through digital technology, private sector partners and government service providers, given their proven effects on anticipatory action and resilience.
- Interventions to address restrictive gender norms require greater time and scale, as well as effective mechanisms that can support cascading positive impacts seen among direct participants to the wider community.

Credit: Mercy Corps / Ezra Millstein / Ethiopia / 2023

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Resilience in Pastoral Areas – North (RIPA-North) is a five-year, $45 million USAID-funded program operating in lowland areas of Somali, Oromia and Afar regions of Ethiopia (2020 – 2025). RIPA-North aims to improve the resilience capacities of households, markets, and governance institutions, collectively contributing to enhanced food security and inclusive economic growth.