

Measuring impact beyond yield and income: integrating social value into agrifood resilience measurement

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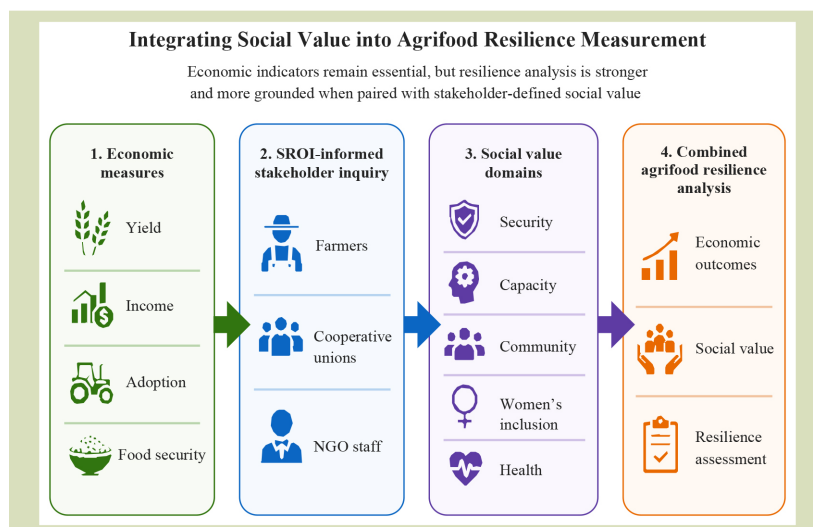
KEYWORDS

Agrifood resilience, cooperative agribusiness, impact measurement, locally led development, social return on investment, women's empowerment

HIGHLIGHTS

- Social return on investment inquiry reveals stakeholder-defined social value.
- Economic gains link to security, capacity and community.
- Women's Empowerment in Agriculture Index in Ethiopia connects agency to resilience.
- A study in Nigeria illustrates resilience-capacity measurement.
- Mixed-methods portfolios strengthen agrifood resilience assessment.

GRAPHICAL ABSTRACT



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ABSTRACT

Agrifood resilience is often measured through yield, income, production, adoption and food security indicators. These outcomes remain essential to understanding agrifood resilience but they do not fully capture the social and institutional conditions that help enable households and communities to absorb shocks, adapt to changing climate and market conditions, and sustain gains over time. This paper provides a perspective that draws on an inquiry informed by social return on investment and conducted through a partnership between Nuru, an international non-governmental organization, and Georgetown University's Global Human Development Capstone program, using Nuru Ethiopia as the primary case. The inquiry found that farmers, cooperative union leaders and staff often interpreted income and market access through broader changes in security, capacity, community, women's

inclusion, and health. Two prior Nuru studies provide supporting examples: Nuru Ethiopia's use of the Abbreviated Women's Empowerment in Agriculture Index and Nuru Nigeria's mixed-methods resilience-capacity evaluation. This perspective provides support for a mixed-methods measurement portfolio to capture resilience in its layered reality combining economic indicators, stakeholder-defined social value, standardized social metrics and resilience-capacity indices. While none of these measures alone can sufficiently capture the complexities of agrifood resilience, together, they allow organizations to monitor and effectively bolster agrifood resilience.

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1 Introduction

Agrifood resilience is often assessed through outcomes that are visible, comparable and familiar to implementing organizations: crop yields, household income, production volume, adoption of improved practices and food security. These measures are necessary. If farmers do not earn more, produce more reliably or improve household food access, claims about resilience remain difficult to sustain. Nonetheless, these indicators do not fully explain how households and communities would be better able to manage uncertainty, make decisions, rely on local institutions or sustain gains after experiencing household shocks or shifts in external support. Resilience measurement, therefore, needs to account for both economic progress and the social conditions that shape whether progress lasts and transforms the foundation on which resilience is built.

This measurement gap is especially important because resilience is commonly understood through the capacity to absorb shocks, adapt to changing conditions and transform systems over time^[1,2]. Yields and incomes contribute to those capacities, but they do not capture them completely. A household may report higher income while still facing limited decision-making power, weak institutional relationships, low confidence in the future or unequal control over resources. These dimensions are harder to measure, but they are central to how resilience is experienced in agrifood systems.

Social return on investment (SROI) offers one basis for addressing this gap. Although SROI is often associated with financial proxies and social value ratios, its earlier stages ask whose definition of value is being used before indicators are selected. By emphasizing stakeholder involvement and materiality, SROI can reveal outcomes that are often less visible

in standard agrifood monitoring^[3–5]. This analysis used an SROI-informed inquiry with Nuru Ethiopia as the primary case for examining stakeholder-defined social value in agrifood resilience measurement. It then draws on Nuru Ethiopia's Abbreviated Women's Empowerment in Agriculture Index (A-WEAI) measurement and Nuru Nigeria's resilience-capacity evaluation as supporting examples.

2 Material and methods: SROI-informed case and supporting evidence

This analysis was grounded in an SROI-informed case study conducted through a partnership between Nuru and Georgetown University's Global Human Development Capstone program. SROI was used as an analytical lens because it asks how value is defined, who defines it, and which outcomes should be considered material before indicators or financial proxies are selected to quantify the social value generated. This framing was useful for the Ethiopia case because the study was not simply asking what changed. It was asking if formal concepts of social value aligned with how farmers, cooperative union leaders and Nuru Ethiopia staff understood the holistic value of Nuru Ethiopia's agrifood interventions^[3–5].

The study began with a review of SROI literature, related social impact assessment approaches and Nuru's existing measurement system. This review positioned SROI as one possible complement to existing tools, not as a replacement for quantitative outcome measurement.

The empirical component comprised seven semi-structured focus group discussions and a semi-structured interview

conducted in and around Arba Minch. Participants primarily came from the Nuru Ethiopia program ecosystem and included women and men farmers from two primary cooperatives, leaders from one Nuru-supported cooperative union, Nuru Ethiopia staff, leadership from a comparison fruit and vegetable union and staff from a peer organization. Focus group discussions generally involved about 10–24 participants, while the smaller organizational sessions involved three to six participants. Stakeholder groups were selected purposively to reflect the main actors in Nuru Ethiopia’s cooperative agribusiness model rather than to produce a statistically representative sample^[6].

The eight sessions generated more than 60 pages of transcripts. Three researchers coded the material using a combined literature-informed and emergent coding approach. Initial categories were informed by the SROI literature and revised as participants described outcomes in their own terms, grounding the findings in their lived experience. Each researcher coded an assigned set of transcripts, which another team member cross-checked. Ambiguous passages and emerging codes were discussed collaboratively to ensure that the final coding was applied consistently. Coded excerpts were grouped into five overarching domains: security, capacity, community, women’s inclusion, and health. The team then reviewed aggregate code frequencies and patterns across stakeholder groups to identify

the most recurrent themes. Fig. 1 provides the coded reference counts rather than the number or proportion of respondents, and a passage could receive more than one code. Before each session, participants were informed of the purpose of the inquiry and provided consent to participate^[6].

Two prior Nuru studies were included to situate the SROI-informed inquiry within Nuru’s broader resilience measurement practice. Nuru Ethiopia’s 2023 impact report illustrates how the A-WEAI can measure agency and empowerment in agrifood programs^[7,8]. Nuru Nigeria’s 2019–2023 endline evaluation illustrates how absorptive, adaptive and transformative resilience capacities can be assessed through a longitudinal mixed-methods evaluation^[9]. This resilience-capacity framing draws on measurement approaches that distinguish between absorptive, adaptive and transformative capacities^[1,2]. These sources are then considered alongside the SROI-informed findings.

3 Results: stakeholder-defined social value in agrifood resilience

3.1 Social value extended beyond economic return

The SROI-informed inquiry found that stakeholders described

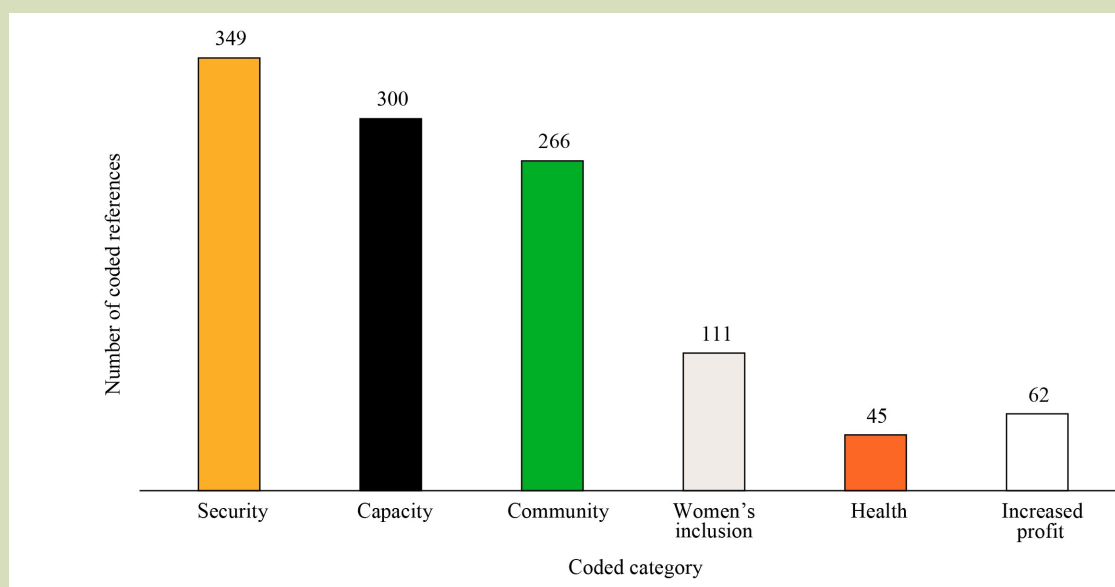


Fig. 1 Coded references to social value domains and increased profit in the SROI-informed inquiry. Counts represent coded references across stakeholder interviews and focus group discussions.

economic and social value as closely linked. Even when conversations focused on non-economic change, respondents repeatedly returned to income, crop yields, market access and profitability. These outcomes, however, were rarely discussed as isolated financial gains. Farmers and cooperative leaders connected income and market stability to the ability to plan ahead, reduce stress, access loans, invest in farming and support children's education^[6].

Across stakeholder groups, five recurring dimensions of social value emerged: security, capacity, community, women's inclusion, and health. Security, capacity, and community were the most frequently discussed, while women's inclusion and health captured more specific aspects of household and community well-being. The themes reflected how stakeholders described change in practice, rather than categories imposed solely from the SROI literature^[6].

3.2 Security, capacity, and community as resilience outcomes

Security, capacity and community were the most frequently discussed dimensions of social value across the Ethiopia fieldwork. Security included economic, physical, environmental and psychological dimensions. Farmers described security through reduced exposure to market fluctuations, access to loans, more stable livelihoods and the ability to plan for the future. Cooperative unions emphasized market linkages, price transparency, harvest consistency, and support during drought or disaster response. Nuru Ethiopia staff connected security to market systems, environmental risk reduction and community confidence in sustaining progress without long-term dependency^[6].

Capacity was also central. Farmers associated Nuru-supported cooperatives with knowledge, skills, improved marketing ability, improved seed use and leadership opportunities. Cooperative unions described capacity in terms of training primary cooperatives, strengthening technical skills, and increasing ownership across the cooperative system. For Nuru Ethiopia staff, capacity was tied to a broader shift from farming as a subsistence activity to farming as a business opportunity and from aid dependency to self-reliance^[6].

Community emerged through descriptions of trust, solidarity, mutual support and improved relationships within and between communities. Cooperative unions linked community

value to their role in connecting primary cooperatives, farmers, markets and local institutions. Rather than introducing social capital as a separate measurement framework, the inquiry showed that trust and relationships were already part of how stakeholders described value and resilience in practice^[6].

3.3 Women's inclusion as both social value and measurable agency

Women's inclusion emerged as a distinct category of social value. Women farmers described improvements in economic independence, confidence, respect from peers, household decision-making and participation in community events. Men also discussed women's inclusion, though more often in relation to women's contributions to household income and economic security^[6].

This finding connects to earlier measurement work in the same broader program context. In 2023, Nuru Ethiopia used the A-WEAI to assess empowerment among 395 women and 262 men in Nuru-supported cooperative communities. The tool measured agency across production, resources, income, time and leadership. Women scored 0.76 on the five domains of the empowerment index, compared with 0.81 for men and above the cited Ethiopia national benchmark of 0.69^[7,8]. These results do not translate social value into economic terms, but they show that agency-related themes raised in the SROI fieldwork can also be tracked through a standardized tool.

Together, the SROI inquiry and A-WEAI findings show women's inclusion as both a stakeholder-defined outcome and a measurable component of resilience. Yield and income indicators might reveal household gains, but they do not show who controls resources, who participates in decisions, or whether women have gained the agency needed to sustain those gains over time.

4 Discussion: building a mixed resilience measurement portfolio

4.1 SROI as a stakeholder-driven lens to understand impact

The SROI framing helped shift the analysis from program outputs to stakeholder-defined value. In the Ethiopia case,

farmers, cooperative union leaders, and staff continued to discuss income, yield, market access and profitability, but they connected these outcomes to security, confidence, cooperative relationships, women's agency and the ability to plan for the future^[6]. This indicates that the main contribution of SROI in agrifood resilience measurement may come before monetization, that is, before aspects of social value are assigned financial proxies for SROI calculation, when stakeholders are asked which outcomes are material and how those outcomes should be represented.

This distinction is important because SROI is often reduced to a ratio or financial proxy. For this article, its value is methodological rather than primarily financial. It provides a structured way to identify locally meaningful outcomes before deciding whether they should be measured quantitatively, described qualitatively or eventually assigned financial proxies. The SROI literature emphasizes stakeholder involvement and materiality, while also cautioning that SROI ratios can be misleading when interpreted without context^[3–5].

4.2 Standardized social metrics can complement stakeholder inquiry

Stakeholder inquiry can identify what people value, but it cannot always show how widespread a change is, how it varies across groups, or whether it is associated with other outcomes. The Ethiopia A-WEAI results illustrate the complementary role of standardized social metrics: they make selected dimensions of agency comparable across respondents, while the SROI inquiry explains how women and men describe agency, respect, income control and participation in daily life. A-WEAI does not translate social value into economic terms, and the yield association should not be interpreted as causal. Its value in this analysis is different: it shows that some social dimensions surfaced qualitatively can be measured consistently, while others remain better suited to narrative analysis.

4.3 Resilience indices can test whether capacities change

Resilience-capacity indices add a third measurement layer. Nuru Nigeria's 2019–2023 endline evaluation used a longitudinal mixed-methods design to assess absorptive,

adaptive and transformative resilience capacities among intervention and comparison households^[9]. This framework builds on resilience measurement approaches that distinguish between the ability to absorb shocks, adapt to changing conditions, and transform systems over time^[1,2].

The Nigeria study differs from the SROI inquiry because it tested predefined resilience capacities rather than asking stakeholders to define what is materially relevant when it comes to resilience. Its endline results were found to be significantly higher adaptive and absorptive resilience among intervention farmers, while transformative resilience did not show the same measurable difference. The Nigeria study also revealed gains in crop yields, income, savings, access to borrowing and training^[9].

Together, these approaches point toward a mixed measurement portfolio. Economic indicators show whether livelihoods improved. SROI-informed inquiry helps identify which changes different stakeholders recognize as valuable and why those changes matter. Standardized social metrics track selected dimensions of social value, such as agency and empowerment. Resilience indices test whether household capacities changed. When used together, these methods can better capture the scale, durability and stakeholder relevance of agrifood resilience in a given context.

5 Conclusions

Agrifood resilience measurement should preserve yield, income, adoption and food security indicators, but these measures do not fully explain how households and communities create, experience and value change. The Nuru Ethiopia SROI-informed inquiry showed that stakeholders described value through security, capacity, community, women's inclusion, and health, often linking economic gains to stability, confidence, agency and local relationships. The supporting examples from Ethiopia and Nigeria show how these dimensions can be valuable adjuncts to standardized empowerment measures and resilience-capacity indices. A mixed-methods measurement portfolio can therefore provide a fuller account of whether agrifood interventions generate gains that are not only measurable, but also meaningful to its primary stakeholders, durable and locally sustained.

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Compliance with ethics guidelines

The SROI-informed inquiry was conducted as a Nuru program learning and evaluation activity. The research team completed social and behavioral human subjects protection training, adapted the tools with Nuru Ethiopia staff to ensure contextual appropriateness and obtained informed consent before each interview or focus group discussion. Ian Schwenke, Chantal Braunwalder, Molly Knapp, Jeremy Kundtz, and Ekin Birol declare that they have no conflicts of interest or financial conflicts to disclose. This article does not contain any studies with animal subjects performed by any of the authors.

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